

# HEALTH SERVICES AND STATISTICS

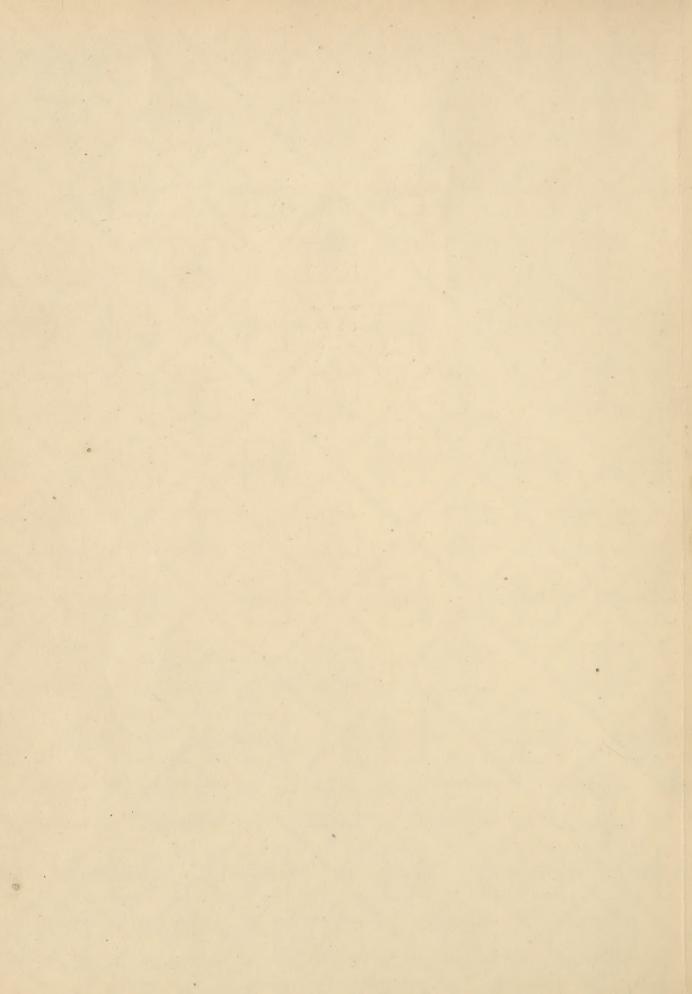
TERRITORY OF HAWAII



Postwar Planning Committees on Health Public Health Committee Chamber of Commerce of Honolulu







Honolula. Chamber of Commerce. Public Health

HEALTH SERVICES AND STATISTICS

RECOMMENDATIONS OF THE COMMITTEES ON NURSING, OCCUPATIONAL THERAPY, PHYSIOTHERAPY AND HEALTH STATISTICS

POSTWAR PLANNING COMMITTEES ON HEALTH
Public Health Committee
Chamber of Commerce of Honolulu

January 1948

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EXECUTIVE DIRECTOR, PUBLIC HEALTH FUND CHAMBER OF COMMERCE OF HONO ULU

HEALTH SERVICES AND STATISTICS

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#### FOREWORD

This volume is devoted to studies of four very important health services: nursing, occupational therapy, physiotherapy, and the keeping of health statistics.

In three of these services -- nursing, occupational therapy and physiotherapy -- the central problem is one of obtaining trained personnel. Manpower shortages linger on from wartime dislocations; training facilities are frequently lacking in the Territory; and official or private agencies are unable to make adequate provision for staffing.

Even when personnel are adequate, a problem remains. Professional workers in allied fields are often hostile to newer developments in health and medical services. Lay persons, through ignorance or bias, are unwilling to make the optimum use of these services. Sometimes they would like to, but are thwarted by economic considerations. Such difficulties—not uncommon ones in the fields under consideration—are partly resolved by an intensive program of health education.

Health statistics presents other problems. First, existing facilities and data must be utilized as fully as possible. Second, future surveys and censuses must be much more extensive than they are at present. The Bureau of the Census, the Bureau of Labor Statistics and a number of other official and private agencies charged with the collection and analysis of data, either on a local or a national scale, must be convinced of the necessity of full coverage of Honolulu and the Territory. This coverage should take in not only births, deaths and incidence of illness, but other information intimately related to health--migration, housing, costs of living, income. Since much statistical material is collected by states (and territories omitted), attainment of this goal must ultimately wait upon statehood for Hawaii.

The four studies embraced in this volume make specific recommendations to remedy some of the defects of current practice. An expanded Division of Health Statistics in the Territorial Board of Health is suggested, and charged with the responsibility of collecting and analyzing a variety of data. A central school of nursing is recommended for the University of Hawaii, to give the basic courses now offered by the three Honolulu independent schools. Mention is made of the uneven distribution about the Territory of certain types of nurses, who are frequently clustered on Oahu all out of proportion to that island's population. The practice of occupational therapy is not covered by any Territorial laws, the enactment of which would seem highly important. Educational programs aimed at lay and professional persons are recommended to increase general understanding of the value of scientific physiotherapy.

The four subjects considered in this volume, either as specialized forms of treatment or (in the case of statistics) as powerful, overall tools of attack, are unquestionably integral parts of any comprehensive community health program. As such, they deserve consideration commensurate with that accorded more dramatic problems, such as tuberculosis, mental hygiene, venereal disease or cancer.

F. J. Pinkerton, M.D., Chairman Public Health Committee Chamber of Commerce of Honolulu This volume to devoted to studios of four very important health services services therapy, and the services ing in the services in the state of health states.

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F. J. Pinkerton, M.D., Chairman Public Health Committee Camber of Commerce of Hopelulu

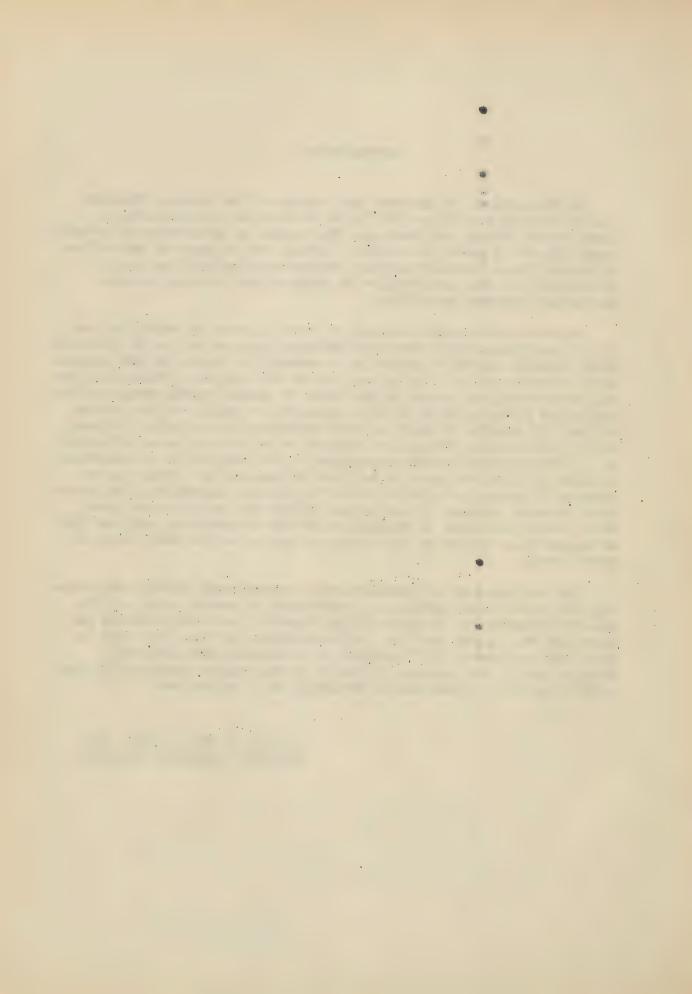
#### INTRODUCTION

In this volume is included the reports of the Pestwar Planning Health Cormittees dealing with Health Statistics, Physiotherapy, Occupational Therapy and Nursing. The report on statistics is included along with the reports on specific healing arts because of convenience in birding these reports together, rather than any feeling that statistics is mainly concerned with occupational therapy, physiotherapy and nursing activities.

Accurate statistical analyses of vital records of morbidity and of all conditions which affect healthful living are needed to determine where emphasis should be placed in a community's public health program and how successful are various aspects of the program. Priorities for use of personnel and money in the field of public health should not be determined by guess or by special interests of public health leaders, but only by careful analysis of well compiled data regarding various health conditions. Often, what appears to be a trend in one direction or a matter of considerable importance, after subjection to statistical analysis is disclosed to mean no trend whatseever or a trend in the opposite direction or a matter of really little importance. Unless we have accurate analysis of our public health data we can waste much time, energy and funds in channels where the returns are poor and fail to expend those assets in the fields of public health where they are most needed.

The healing arts of physiotherapy, occupational therapy and nursing have shown rapid strides of improvement in recent years and the scientific knowledge of these fields should be made available in our Territory to all who need it. High standards for those who work in these professions in the Territory are unquestionably desirable. Studies made by the leaders of Hawaii in this field, which follow, may well be used as a guide toward obtaining these objectives.

Charles L. Wilbar, Ur., M.D. Chairman, Steering Committee



#### PUBLICATION PROCEDURES AND RESPONSIBILITY FOR REPORTS

Reports of the postwar planning health committees are prepared by the several study groups with the aid of the Public Health Committee staff of the Chamber of Commerce. Staff members meet regularly with the groups during the course of study.

A tentative final report in outline form is submitted to the Steering Committee for review. The study group chairman then meets with the Steering Committee which advises, offers suggestions regarding changes, and then refers the project back to the study group for further consideration. The final revision is resubmitted to the Steering Committee for approval both in outline and narrative forms. The purpose of the outline is to enable anyone to appraise readily the present status of a particular program and the recommendations of the study committee without having to peruse the entire report. Each finally revised report will include any dissenting opinions of the committee members which they may request be published. Reports are issued as the work of the particular committee preparing them. Individual recommendations may be considered to represent the view of the committee as a whole.

R. G. Nebelung, Dr. P. H. Executive Director Public Health Committee

#### GEOGRAPHICAL NOTE

The Territory of Hawaii consists of eight major islands and a number of lesser ones. The two largest cities are Honolulu, on Oahu, and Milo, on Hawaii. There are five counties, but Kalawao (consisting of Kalaupapa Leper Settlement, on the Island of Molokai) has no local government. These geographical units are listed in the following table: 1/

	Land Area in	Popule	ation
Unit	'Square Miles	1940	1946
City and County of Honolulu	603	258,256	358,911
Island of Oahu	589	257,664	358,911
Honolulu dity	82	179,326	267,710
Rural Oahu	507	78,338	91,201
Palmyra Island	N.A.	32	N.A.
Other minor islands 2/	N.A.	560	N.A.
Hawaii County 3/	4,031	73,276	70,871
Maui County 4/	1,173	55,980	54,610
Island of Maui	728	46,919	44,807
Island of Molokai 4/	250	5,340	6,173
Island of Lanai	141	3,720	3,630
Island of Kahoolawe	45	1	N.A.
Kauai County	623	35,818	35,111
Island of Kauai	551	35,636	34,911
Island of Niihau	72	182	199
Total 5/	6,420	423,330	519,503

- Land area and 1940 population from 1940 U.S. Census, 1946 population from Territorial Board of Health estimates for July 1, 1946. The 1946 estimates are taken from two different published sources and in several instances do not add up exactly to the indicated totals.
- Not under Territorial jurisdiction, but included for census purposes.

  A number of minor islands in the Hawaiian chain are under Territorial jurisdiction but are uninhabited.
- 3/ Coextensive with the Island of Hawaii. Hilo city had a 1940 population of 23,353 (27,922 in 1946).
- 4/ Including Kalawao County (Kalaupapa Leper Settlement, 14 square miles, population of 446 in 1940 and 386 in 1946).
- 5/ "Other minor islands" included for 1940.
- N.A. Not available.

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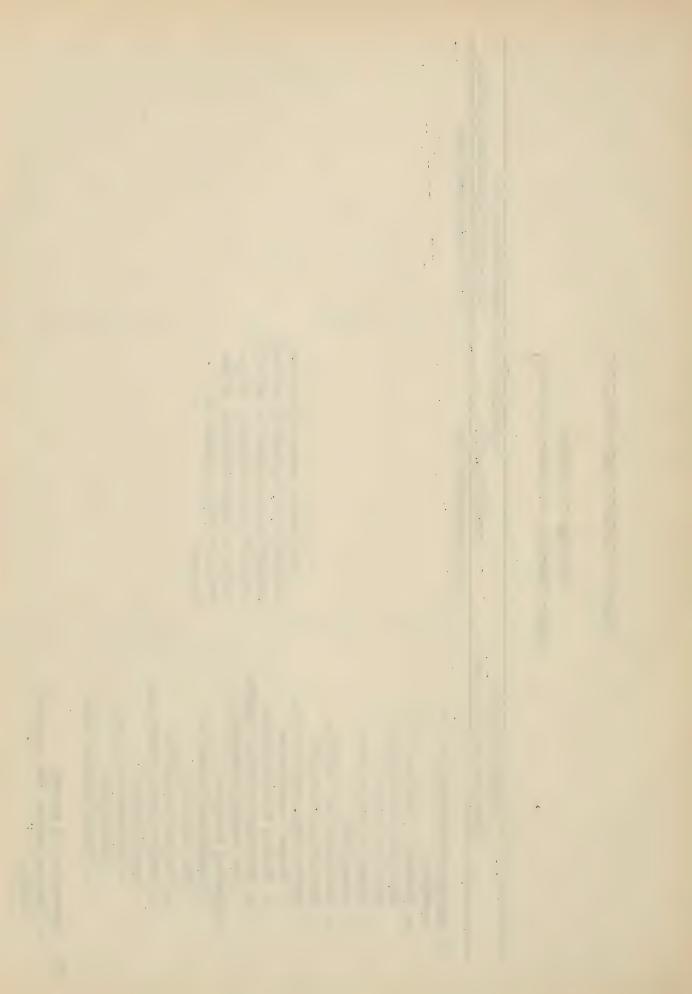
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Recommendations of COMMITTEE ON NURSING

Mrs. F. Helen Gage, R.N., Chairman Mrs. David Y. K. Akana, R. N. Mrs. Ethel Brown, R. N. Virginia Doyle, R. N. Laura Draper, R. N. Virginia Jones, R. N. Marjorie MacLachlan, R. N. Mrs. Hazel Mattson, R. N. Mrs. Mildred Pinner, R. N.

Committee on Mursing Postwar Planning Committees for Health

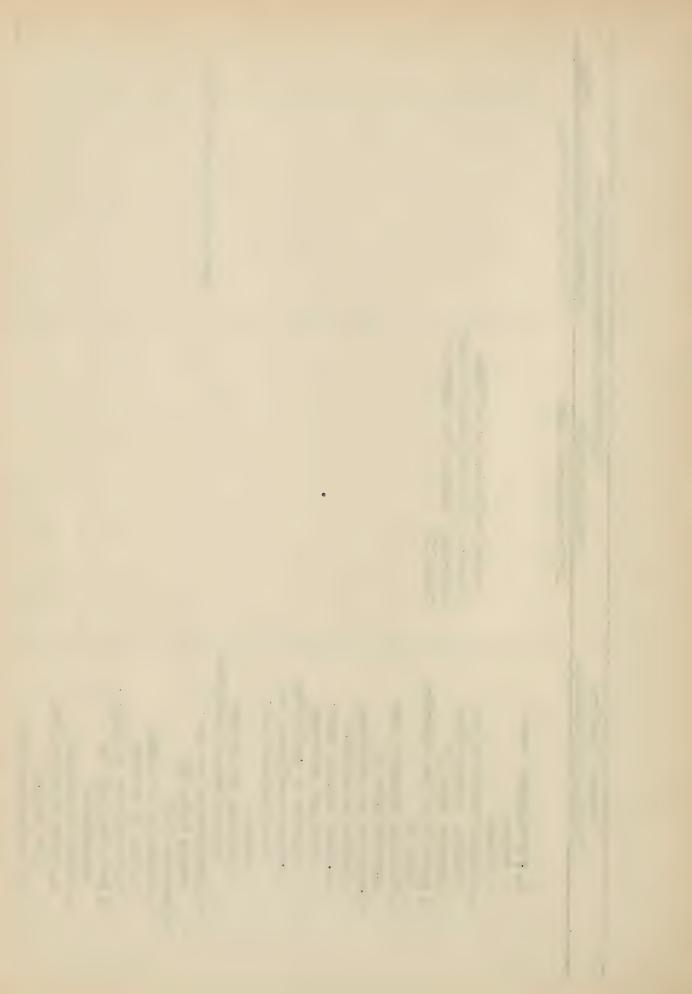
Suggestions and Recommendations for action action	It is recommended that:		
Suggestions and R Immediate Action	It is recommended that:	The Nurses' Association keep records of the number of members engaged in each specific activity, and maintain a perpetual inventory, to supplement data of the Board for the Licensing of Nurses.	
Present Situation (Services and Resources)		I. Background of nursing in the Territory.  A. Increase in numbers (1.3 per 1,000 population in 1900, 3.3 in 1940).  B. Growth of institutions since 1859.  C. Development of training facilities since 1916  D. Professional organizations 1. Nurses' Association 2. Nursing Service Bureau 3. Territory of Hawaii League for Nursing Education E. Special Problems 1. Exceptional growth of the Territory. 2. Diverse population. 3. Socio-economic trends and possibilities. a. Business cycle and its effects. b. Preparation of nurses.  A. Training course for practical nurses.	



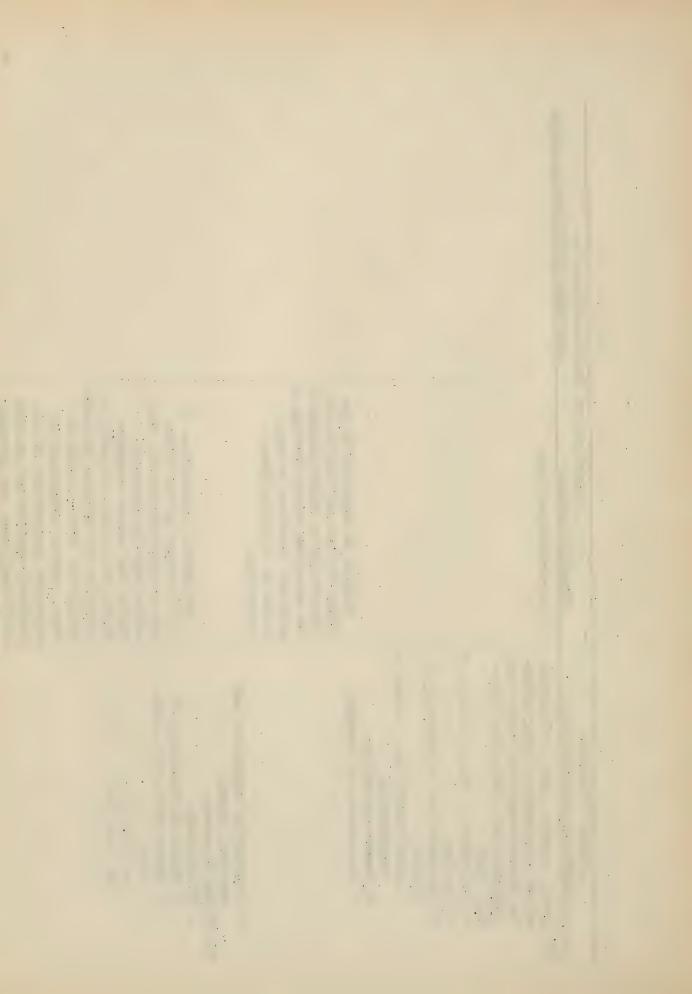
D	Tong-range Objectives or Action	mended that.	Ta Tecoli lellaed																				TO TO	be instituted at the Univer-	sity of Hawaii.		Health field	be extended to nur	schools as they are ready for them	and facilities become available.			2		
	Twmodiste Action																																More discriminating pre-	requisites be adopted, to assure	the highest type of student.
	(Commisses and Recampos)	COO TROOP SITE COOL TOO		1. Operation in conjunction	with Territorial Board for	Licensing of Murses	Onconiestin mith of the	הבחמו מובוור מו נמסדוכ דוו-	struction and Community	3. Location, Washington	Intermediate School	4. Length of course, 9 months	a. Theory, 9 weeks	b. Practice in local	hospitals, 30 weeks	5. Entrance prerequisites	a. Age, 18 years or over	b. 8th grade or better	education	c. Good physical and mental	6. Staff, 3	B. Professional nurses (R.W.)	1. Schools	a. Major schools	1) The Queen's	2) St. Francis	 b. Affiliated institutions	1) University of Hawaii	2) Kauikeolani Hospital		4) Board of Hea	2. Length of course, 3 years	3. Entrance prerequisites	a. Graduation from accredit-	ed high school



commendations for Long-range Objectives or Action	It is recommended that:	More scholarships be offered.
Sugmestions and Recommendations for Immediate Action	It is recommended that:	Needed facilities and affiliations be instituted where they are at present lacking (see Appendix Table 12)
Present Situation (Services and Resources		b. Psychological examination c. Others 4. Clinical facilities for training students (See Appendix Table 12) 5. Accrediting (see Appendix Table 12) 6. Teaching personnel (see Appendix Table 12) 7. Students and graduates, relative to mainland a. Fewer schools, students and graduates relative to population. b. Bigger enrollments but fewer graduates per school. c. Drooping out of more students before graduation 8. Scholarships (see Appendix Table 12) c. Graduate study 1. University of Hawaii a. B.S. in nursing b. Certificate in P.H.N. 2. Leahi Hospital (in tuberculosis) 3. In-service programs a. Board of Health, T.H. (for P.H.N.) b. Various hospitals.



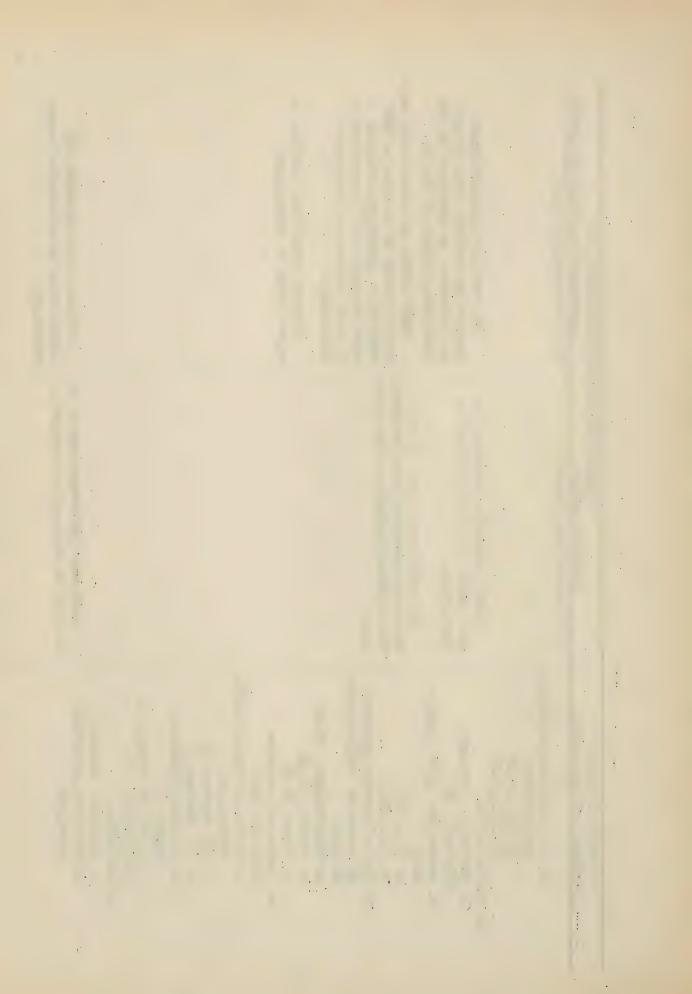
Present Situation	Suggestions and F	Suggestions and Recommendations for
(Services and Resources)	Immediate Action	Long-range Objectives or Action
Legal aspects: Text of Statutes of the Territory of Hawail relating to registration of nurses and regulation of nursing (Act 2405.L. 1947)	It is recommended that:	
nursing The Board for the Licensing of Nurses		and a state of the
1. Appointment, term, tenure and compensation 2. Powers and duties		
3. Record-keeping function	Revenue be augmented by in- crease in fees and Territorial	
	funds so as to employ personnel for extensive record keeping. A perpetual inventory be maintained of all significant information.	
C. Licensing of registered and practical nurses IV. Fields of service		
Private duty 1. Number in Territory. 86	The Nurses' Association of the Territory and the Terri-	
2. Nurses per 1,000 popula-	torial League for Nursing Edu-	
7.0 .5.0 .8	studies and assume responsi-	
b. T.H., 0.2	bility for active leadership in attacking the problems confront-	
	ing private duty, as well as	
	standards, improvement of pro-	
	lessional training and graduate study facilities. and improve-	
	ment of working conditions,	
	wages and nours, in general,	



Recommendations for	Long-range Objectives or Action	It is recommended that:						Job analysis of office nursing	be instituted by N.A.T.H. and the													
stions and	Immediate Action	It is recommended that	A program of hourly private duty nursing be considered.	Private duty nursing be in- cluded in H.W.S.A. hospital	coverage.	Wages and hours of private duty nurses be adjusted to levels	prevailing in other occupations of similar skill levels															
Present Situation	(Services and Resources)	3. Conditions of employment	a. Hours 1) War years, 12 per day 2) At present, 8 per day		b. Wages (for 8 hours)	1) 1940, \$8		B. Physicians' offices	1. Number in Territory of	2. Percentage of all nurses	3.6 (11.11.11.11.11.11.11.11.11.11.11.11.11.	C. Institutions	7.	nurses in Territory, 443	. 0	institution (see Appendix	Table 11)	D. Industrial and plantation L. Number of industrial nurses	in Territory, 63	2. Nursing ratios	(both U.S. and T.H.)	



Suggestions and Recommendations for	It is recommended that:		The need for a bedside care	program be studied, and, if need is indicated, be developed by the	Territorial Board of Health	Staff nurse and supervisory per- sonnel ratios of 1 nurse to 2500	care program) and 1 supervisor to	To stail nurses and students be maintained.	Adequate consultant service in	major fields be maintained.							Offices and conference and	clinic rooms be constructed where	
Suggestions and	It is recommended that:		Staff nurses be increased to	meet ratio of 1:5000, nurses to population.		tinued to promising staff members for advanced training on the main-	land.											Honolulu be replaced or repaired.	
Present Situation	(Services and resources)	b. Per 1,000 manufacturing wage earners 1) U.S., 0.8	E. Public Health	1. Number in Territory (1946-47), 88	2. Nurses per 1,000 popula-	a. U.S., 0.1 b. T.H., 0.2	3. Kind of service reported by Bureau of Public Health	Nursing 72 39	Infant, 21.2%	4. Sources of salaries	(June 30, 1946)		d. Crippled Children's	e. M. & C. H. Bureau, I	f. U.S.P.H.S., I.	ಣ	b. Elsewhere, generally	Tradeduace	



Recommendations for Lynd-range Objectives or Action		
Suggestions and Rec Immediate Action	Special emphasis be put on maintaining adequate nursing-to-pupil ratios in schools outside Oahu.	
Present Situation (Services and Resources)	F. School (D.P.I.)  1. Number in Territory, 16  a. Oahu, 12  b. Other islands, 4  2. Percentage of all nurses  1.5  3. Use of Board of Health nurses where no full-time D.P.I. nurse is utilized.	



#### NURSING

#### Introductory

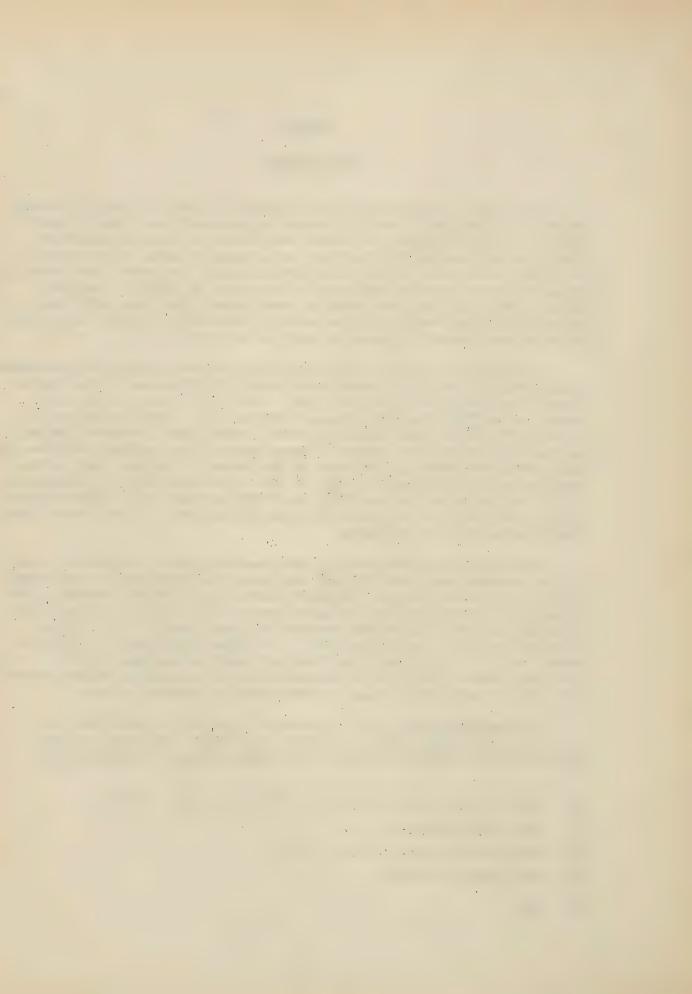
The history of nursing in the Territory of Hawaii reveals a steady growth and expansion. Locally as well as nationally, an ever greater number of trained nurses has become available for a given population. There has been constant improvement in methods of care, hospitals and training facilities. Professional organizations for nurses have emerged. These developments have come about in response to definite community health needs, but many new problems have joined older ones still unsolved, with the result that the nursing profession is called upon today to make even greater adjustments than in the past.

The ratio of nurses to population has shown considerable improvement since 1900. In that year there were about 121,000 nurses in the United States, and only 207 in the Territory. The U.S. Census listed these nurses under "Domestic and Personal Service." 1/ The 1910 Census included a "Trained Nurse" category under "Frofessional Services" as well as one for "Hurses (not trained)" under domestic and personal services. 2/ Each decade witnessed an increase in the number of nurses, both on the mainland and in the Islands. 3/ In 1900 there were only 1.3 nurses per 1,000 population in the Territory; by 1940 there were 3.3. The national ratio in the same period increased from 1.6 to 3.4. 4/ Thus Hawaii was almost abreast of the mainland.

Both nationally and locally, the greatest growth relative to population occurred among the trained (as opposed to untrained or practical) nurses. In the two decades following World War I, trained nurses in the Islands increased from 1.0 per 1,000 persons (in 1920) to 2.6 (in 1940). Untrained or practical nurses numbered 0.8 per 1,000 in 1920, 1.0 in 1930 (their peak), and 0.7 in 1940. A similar trend occurred in United States data. By 1940, both the Territory and the mainland had 0.7 practical nurses per 1,000 population, and the continental United States had a slight edge over Hawaii in the matter of graduate nurses.

Concomitantly with this improvement in nursing service there developed a great expansion in hospital facilities. The first general hospital in the Facific area was The Queen's, founded in Honolulu in

- 1/ 1900 data are given in greater detail in Appendix Table 1.
- 2/ See Appendix Table 2.
- 3/ See Appendix Tables 2, 3, 4, and 5.
- 4/ See Appendix Table 6.
- 5/ Ibid.



1859. Kuakini (then called Japanese Hospital) had its beginnings as early as 1899. In 1927, St. Francis Hospital was opened for patients. 3/Various specialized institutions, such as Leahi (for tuberculosis) and Kapiolani (founded in 1890 "to propagate and perpetuate the race"), 4/were added to the list of Honolulu medical facilities. A similar growth in general and other hospitals occurred in rural Oahu and on the other islands. By 1939 there were 68 such institutions in the Territory of Hawaii: 57 general hospitals, four tuberculosis sanatoriums, two institutions for nervous and mental patients, and five hospitals dedicated to other purposes. 5/

Adequate facilities for the training of nurses have been an even more recent phenomenon. "The opening of schools of nursing in New York, New Haven, and Boston in 1873 marked the beginning of trained nursing in the United States." There were 2,155 schools of nursing in the United States in 1925, a figure which fell to 1,253 by 1947. The first such school in the Islands was established at The Queen's Hospital in 1916, and was followed by schools of nursing at St. Francis (1929) and Kuakini (1931).

Professional organizations soon arose to serve the nurses. One of the largest national organizations, the American Nurses' Association, is locally represented by a member association with a 1946 membership of 566, a little more than half the total number of nurses registered in the Territory. 10/ This group is in an admirable position to keep tab on the distribution of nurses in the Territory, by place and type of work. A perpetual inventory devoted to this kind of information could well be one of their functions, to supplement records of the Board for the Licensing of Nurses. Another professional organization, the Nursing Service Bureau (with a 1947 membership of 119), serves both the community and its member private duty nurses by acting as a clearing house for jobs. 11/ An important service in still another field of nursing is rendered by the recently recognized Territory of Hawaii League for Nursing Education.

- 1/ "The Queen's Hospital: Information for Our Patients and the Public" (1945?), p. 4.
- 2/ "The Kuakini General Hospital School of Nursing Announcement" (1947), p. 4.
- 3/ "Biennial Report, 1945-1946, St. Francis Hospital" (1947), p. 1.
- 4/ Oahu Health Council Bulletin, September 1947, p. 2.
- 5/ See Appendix Table 10.
- 6/ Agnes Gelinas, Nursing and Nursing Education (New York, 1946), p. 4.
- 7/ Ibid., p. 9.
- 8/ See Appendix Table 13.
- 9/ See Appendix Table 12.
- 10/ Facts About Nursing, 1947 (A.N.A., 1947), p. 11, and Appendix Table 7 of the present volume.
- 11/ See Appendix Table 9.

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Problems have kept apace of progress, however. Nursing service in the Islands, which apparently had achieved something of an equilibrium by 1940, was prefoundly disturbed by World War II. In many respects it is still seeking an adjustment with postwar conditions of population and economy. The Islands have long maintained a more rapid rate of growth than the mainland, and this trend seems likely to persist for some years after the violent influxes and dislocations of the war years. Further confusion is added by the extreme racial and economic diversity of the population. Although this growth of the Islands has made an expansion of services mandatory, wage and salary adjustments to the recent upsurge in costs of living have not been, like those in manufacturing and other industries, sufficient to attract the requisite number of tyro nurses. Another possibility is that of a downward swing of the business cycle--a "depression" -- with its inevitable corollary of lessened demand for medical treatment. 1/ In opposition to this influence is the growth in prepaid medical care plans, which should create a greater demand for nurses. Thus the future need for nurses in Hawaii (as elsewhere) is not at all clear.

The immediate future is fortunately less beclouded. The present study is devoted to an intensive analysis of the current position of nursing in the Territory, the better to plan properly for this foreseable future.

### The Preparation of Nurses

Nursing education is carried on at three levels in Hawaii. A course for practical nurses gives training to persons interested primarily in the non-professional types of nursing. Three hospital-affiliated schools, all of them located in Honolulu, offer the usual three-year graduate nurse program. Postgraduate courses are given by the University of Hawaii and Leahi Hospital. A similar function is performed by the in-service training programs of various hospitals and Territorial Board of Health.

# Course for Practical Nurses 2/

A course in Practical Nursing was organized in 1947 with the aid of the Department of Public Instruction and the Community Nursing Council. Operated in conjunction with the Territorial Board for the Licensing of Nurses, it is currently held in Washington Intermediate School.

- 1/ This relationship between economic well-being and the demand for health services has recently been noted in a local context (Rear Admiral Lucius W. Johnson, MC, USN, "Survey of Honolulu Hospitals," Hawaii Medical Journal, November-December 1944).
- 2/ For further information, see the Oahu Health Council Bulletin, September 1947, p. 4f, and November 1947, p. 4

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To be admitted to the course a student must possess certain qualifications. The minimum age permitted is 18, and the applicant must have completed the 8th grade successfully. Additional requirements include good physical and mental health and a personality and dexterity suitable to caring for the sick. Men as well as women are admitted to the school. Mature women are encouraged to take advantage of this training.

The length of the course is nine months. "Each class will be given nine weeks of theoretical training and then will receive 30 weeks of practical training at various Honolulu hospitals, in the field ... and at nursery schools. Subjects which the current class is being given include simple nursing procedure, home economics, anatomy, personal hygiene, ethics and personal relationships, child care and development, community help facilities and a small amount of occupational therapy." 1

At present the teaching staff consists of three members, teaching twenty-four students. 2/

Upon successful completion of this training, a student may apply to the Territorial Board for the Licensing of Nurses for a license as a practical nurse. The license is granted upon successful passing of an examination. 3

### Undergraduate Study

The customary three-year professional program is offered by three schools of nursing in the Territory, all of them affiliated with Honolulu hospitals: The Queen's, St. Francis and Kuakini. These institutions give credit for work taken at Kauikeolani Children's Hospital, Leahi Ho pital, The Territorial Board of Health and the University of Hawaii. It is generally felt that eventually much class-room work now given by these schools should be taken over by a central school of nursing located at the University of Hawaii. 4/For the present, however, a strengthening of the individual schools seems to be about all that can be expected.

- 1/ Ibid., November 1947, p. 4.
- 2/ Ibid. This was the beginning enrollment, October 20, 1947.
- 3/ Ibid., September 1947, p. 4.
- In spite of the fact that the number of schools per 100,000 population in the Territory is far below the corresponding figure for continental United States (see Appendix Table 14). The character and distribution of the population in the Islands do not require the diffusion of educational facilities found on the mainland, such diffusion often achieved at the sacrifice of variety of courses and economy and efficiency of operation.

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The three schools generally agree on certain prerequisites to admission. 1 Graduation from an accredited high school is essential, preferably in the upper third of the class. The applicant must have good mental and physical health, the former to be checked by a psychological or "pre-nursing" test. Where a minimum age is set, it is 18; the maximum lies at 30 or beyond. These prerequisites conform to the standards of the majority of mainland schools, where 97 percent require high school graduation and 46 percent specify scholastic standing in the top third of the applicant's high school class. Pre-nursing tests are mandatory in 79 percent of the mainland schools, and students under 18 years of age are admitted by 45 percent. 2 There is considerable sentiment, however, that more discriminating admission requirements should be adopted, in order to assure the best type of student and a high level of professional service in the Islands in the future.

Clinical facilities available for training students are somewhat limited and should be expanded. Only one of the schools has facilities or affiliations in all these fields: medicine, surgery, obstetrics, contagion, neurology, psychiatry, pediatrics, tuberculosis, public health and outpatient (and some of their facilities are capable of improvement). Board of Health field practice opportunities should eventually be extended to all schools of nursing as they (and the Board) become ready for them. Certain gaps should be filled as soon as possible. Clinical services currently available in the three Honolulu schools are noted in Appendix Table 12.

Two of the schools are accredited by the Territorial Board for licensing, and the third provisionally accredited. 3

Full-time teachers number fifteen. Five are employed at The Queen's, seven at St. Francis, and three at Kuakini. 4 Including part-time teacher, there are approximately nine students per instructor at The Queen's, fifteen at St. Francis, and eleven at Kuakini. 5

St. Francis currently has the largest enrollment, but The Queen's graduated the greatest number of students in 1947. Total enrollment in the three schools amounted to 374 students near the end of 1947. Thirty-five persons were graduated during the year.

- 1/ Minimum standards have been advanced by the Board for the Licensing of Nurses.
- 2/ Facts About Nursing, 1947, p. 21f.
- 3/ See Appendix Table 12.
- 4/ See Appendix Table 12.
- 5/ Calculated from Appendix Table 12.
- 6/ See Appendix Table 13.

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Comparison with mainland data reveals some disturbing facts. Hawaii suffers from shortages of both students and recent graduates relative to its population. Local schools have larger enrollments but fewer graduates. The ratio of graduates to students each year is very low, indicating the dropping out of many persons before the completion of the course. The most recent comparable data follow: 1

Ratio	Year	Mainland	Hawaii
Population per school	1947	115,500	175,000
Population per student	1947	1,350	1,410
Population per graduate	1946	3,900	8,700
Students per school	1947	85	125
Students per graduate	1946-47	3.56	10.7
Graduates per school	1946	28.5	20

Another failing of local schools of nursing is in the matter of scholarships. Only nine are offered by the schools at present. 2 Many more should be made available to deserving student nurses.

The three Honolulu schools have made remarkable progress since their inception. Present deficiencies can be largely attributed to their newness. Future years should see the satisfactory solution of the problems noted above, as well as the resolution of other questions not yet recognized.

## Postgraduate Study

Several opportunities for postgraduate study in nursing exist in the Islands. Most importantly, the University of Hawaii offers programs leading to the B.S. in Hursing degree and a certificate in Public Health Nursing. Special courses are given by Leahi Hospital. Inservice training is available for the graduate nurses employed by the Territorial Board of Health and some of the hospitals.

The University program in Nursing permits a major in "either Nursing Administration and Education or in Public Health Nursing, and requires three years of university work in addition to graduation from a school of nursing." The applicant must also be registered as a nurse in the state or territory in which the undergraduate training was secured. This program leads to the Bachelor of Science degree in Nursing. 3

<sup>1/</sup> From Appendix Table 14.

<sup>2/</sup> See Appendix Table 12.

<sup>3/ &</sup>quot;General Catalogue, 1947-1948" (University of Hawaii Bulletin, Vol. XXVI, No. 3, June 1947), p. 47.

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Furthermore, "with the cooperation of the Territorial Board of Health and other community agencies, the University of Hawaii offers a one-year program in Public Health Nursing. Classroom work occupies the first semester. During the second semester students take part in the Public Health Nursing program of cooperating agencies. Students who complete the required program with an average grade of C or higher receive a certificate in Public Health Nursing." 1

In addition to its work with the undergraduate schools and University of Hawaii, the Territorial Board of Health has developed a constructive in-service training program for its own staff. "Emphasis was placed (during 1946) first on principles of teaching, including discussion of patient-nurse and interagency relationships. Later certain nursing techniques were reviewed and standardized. A series of staff meetings were devoted to various aspects of tuberculosis control. After this material had been presented to the Oahu nurses, it was taken to the other islands ..." 2

The three undergraduate schools do not offer formal postgraduate courses, and as a consequence only a limited number of their students or staff nurses take advanced training. Logically, of course, such training should be taken at the University, where it is already available. Emphasis should be placed on the availability of postgraduate study to graduates of the three Honolulu schools and to staff nurses in the various hospitals.

### Legal Aspects

Once a nurse has graduated, she applies for a license. This fact is true of both practical nurses and graduate nurses. She makes her application in accord with the provisions of the "statutes of the Territory of Hawaii relating to registration of nurses and regulation of nursing." (Act 240--S.L, 1947.)

A brief summary of this act may prove of interest. Section 2770 defines the duties of a registered (professional) nurse and practical (non-professional) nurse. A Board for the Licensing of Nurses is established and defined in Sections 2771 and 2777 through 2781. Appointment, term, tenure and composition of the Board are specified. Among its powers are the examination and approval of schools of nursing and applicants for nursing licenses, and the keeping of a minimum of records. The physical, psychological, ethical and educational qualifications necessary for a nursing license are stated in Sections 2773 and 2775.

<sup>1/</sup> Ibid., p. 48

<sup>2/</sup> Annual Report of the Board of Health, Territory of Hawaii, 1946, p. 134.



It has been suggested that the revenue of the Board be augmented by both an increase in fees and Territorial funds so as to permit the employment of adequate personnel to maintain records. There is a paucity of reliable, up-to-date statistics regarding nurses, the collection of which is within the natural province of the Board for the Licensing of Nurses. This information would be supplemented by that recorded by the Nurses' Association.

### Fields of Service

There are eight major kinds of nursing service operating in Hawaii; private duty, office, institutional, industrial and plantation, public health, school, military and educational. Nursing education has been considered in a preceding section. Military nursing is beyond the scope of this report.

### Private Duty Nursing

Private duty nurses in the Territory of Hawaii are somewhat less numerous relative to population than is the case on the mainland. The 86 private duty nurses registered in the Territory for 1946-1947 comprised 8.2 percent of all registered nurses in the Islands, compared to a corresponding mainland figure of 32.4 percent. 1/ Thus, there are 0.2 private duty nurses per 1,000 population in Hawaii, just half as many (0.4) as in the continental United States. 2/

These nurses are mostly clustered on Oahu. Their distribution, by islands, is as follows: 3/

Island	Number of Nurses	Population per Nurse
Territory of Hewaii	86	6,000
Oahu Hawaii Maui Kauai Molokai Others	76 5 2 2 1	4,700 14,000 22,000 17,000 6,000

It is evident that the outlying islands enjoy far less adequate service than Oahu. A more equitable distribution would seem in order.

<sup>1/</sup> Mainland figure based on A.N.A. membership. See Appendix Table 8.

<sup>2/</sup> See Appendix Table 8.

<sup>3/</sup> Calculated from Appendix Table 7.

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It can hardly be said that there is a shortage of private duty nurses, at least in Honolulu. Of the 106 actively employed nurses on the roster of the Nursing Service Bureau in September 1946, 29 were employed 15 or fewer days. The average number of working days during that month was 19 days, as compared to 20 in September 1945. 1/ The Bureau stated, in November 1947, that the supply of private duty nurses was ample for present demands. 2/ It would thus appear that either Hawaii's needs or standards are much lower than the mainland with regard to this field of nursing service. Admittedly, the two areas are not strictly comparable.

Most of the Bureau's placements were for hospital duty--91.5 percent in September 1945, and 93.2 percent two years later. Home placements in the latter month were only 1.3 percent of the total.

There has been a considerable change in the working conditions of private duty nurses since 1940. These changes are reflected in hour, wage and salary data.

The lesser improvement has occurred in incomes. In 1940, when nursing service had achieved something of an equilibrium, a private duty nurse earned \$8 for an eight-hour day. 4/ Assuming five full days of work each week and 50 weeks of work a year, this rate resulted in a total yearly income of \$2,000--although, in all likelihood, most nurses probably earned less than this figure. 5/ An income of such proportions, low as it was for the type of worker required, nevertheless compared favorably with the incomes of other professional persons in 1940. 6/ Nursing salaries were

<sup>5/</sup> The following table, adapted from 1940 U.S. Census data (Population: The Labor Force, Sample Statistics, Wage or Salary Income in 1939, Table 8a), indicates the low status of workers in all professional services:

			A:	ll Indust	tries	Pro	fessiona	1
			Total	Male	Female	Total	Male	Female
Median			\$800	\$965	\$540	\$910	\$1200	\$800
Percent	over	\$2500	5%	7%	1%	8%	14%	4%

A large proportion of these workers were making less than \$800 a year-50 percent of total U.S. workers, 50 percent of the females employed in professional services, and 43 percent of all workers in professional services.

<sup>1/</sup> Data from Appendix Table 9. A person working daily except Sunday and Labor Day would have been employed 25 days in September 1947. Taking Saturdays off as well would have reduced the number of working days to 21.

<sup>2/</sup> Interview, November 5, 1947.

<sup>3/</sup> See Appendix Table 9.

<sup>4</sup> Source, Nursing Service Bureau, November 5, 1947.

<sup>5/</sup> Total incomes were often lower than necessary because of the nurses' unwillingness to work on weekends or at night.

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forced up by wartime personnel shortages and spiraling living costs, and the present rate is \$10 per eight hour day.  $\frac{1}{2}$  Thus private duty nursing fees have increased about 25 percent during the past seven years, compared to a 60 percent rise in the cost of living.  $\frac{2}{2}$ 

If the immediate postwar period has not witnessed a significant turn for the better in nurses' salaries, it nevertheless has seen considerable improvement in working hours. In September 1945, when the wartime shortage of nurses was still in evidence, more than 86 percent of the Nursing Service Bureau placements were for 12 hours, and less than 9 percent for an eight hour day. Exactly two years later only 1.7 percent of the placements specified 12 hours, but 92.5 percent were for 8 hours (see Appendix Table 9). 3

The problems confronting private duty nurses (and others as well) suggest the advisability of an ever more comprehensive leadership by their chief spokesman, the Nurses' Association of the Territory of Hawaii. This professional organization could make the necessary basic studies and assume the leadership in action in a program to advance their position. They might develop standards, urge better undergraduate and postgraduate training facilities, and the adjustment of wages and hours to levels prevailing in other occupations requiring similar skills. Programs of specialized service and hourly private duty nursing should be sponsored by this group. They might also urge the inclusion of private duty nursing in H.M.S.A. hospital coverage.

### Office

Nurses working in physicians' offices and similar places are relatively numerous in Hawaii. They comprised 7.8 percent of all nurses living and registered in the Islands in 1946-1947, compared to a mainland ratio (based on A.N.A. membership) of 3.6 percent. 4

There were 82 office nurses in the Territory in 1946-1947, all that three of them on Oahu. These nurses were distributed among the following islands: 5

<sup>2/</sup> National data from U.S. Department of Labor, Bureau of Labor Statistics.
3/ National data for hours worked during the week of March 24-30, 1940, may be of interest in this connection:

		All indus	stries	Professi	onal Services
		Male I	emale	Male	Female
	Working under 35 hours	11%	17%	13%	20%
1	Working over 48 hours	20	14	24	13
	(From 1940 U.S. Census.	Labor Force	U.S.Summa	ry. Table	87)

<sup>4/</sup> See Appendix Table 8.

<sup>1/</sup> Source, Nursing Service Bureau, November 5, 1947.

<sup>5/</sup> Computed from Appendix Table 7.

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Island	Number of Nurses	Population per Nurse
Territory of Hawaii	82	6,300
Oahu Hawaii Molokai	79 2 1	4,500 35,400 6,200
Others	0	0 0 0 0

A job analysis of office nursing should be initiated by the Territorial Nurses' Association and the Medical Association. At present there is considerable uncertainty regarding the requirements of a good office nurse.

### Institutional Nursing

Nurses employed in institutions are the most numerous group in the Territory, and have approximately the same ratio to the population as prevails on the mainland. Both locally and nationally, about two-fifths of total nursing personnel are institutional nurses. They number 0.9 per 1,000 population in the Islands, as against 0.8 in the continental United States.

As with other fields of service, most of the institutional nurses registered and living in the Territory in 1946-1947 were employed on Oahu. Only Niihau and Kahoolawe, with a combined population of less than 200, lacked any. These nurses were distributed as follows: 2

Island	Number of Nurses	Population per Nurse
Territory of Hawaii	443	1,170
Oahu	313	1,150
Hawaii	52	1,360
Maui	38	1,180
Kauai	23	1,510
Molokai	13	470
Lanai	4	910
Others	0	****

A complete analysis of nurses employed in Oahu hospitals (other than military, mental and leprosy) is contained in Appendix Table 11. This table, based on late 1947 data, shows the largest ratio of total nursing personnel to beds to exist in Kuakini and St. Francis, while the ratio of graduate nurses to beds is highest at Kapiolani, Kauikeolani, and The Queen's, in that order.

<sup>1/</sup> See Appendix Table 8.

<sup>2/</sup> Computed from Appendix Table 7.

It is more difficult to hold than to obtain nurses for Island institutions. According to one newspaper article,

There isn't the acute shortage of adequate nursing help in the territory as is now being experienced on the mainland, but Hawaii does have difficulty maintaining permanent workers. ...

Many of the graduate registered nurses who come here from the mainland to work, are merely visiting the islands for a period. Most of them do not intend to become residents, .. (the president of the Territorial Nurses' Association) said.

(One hospital's director of nurses) asserts that the shortage here is of nurses qualified with sufficient academic training and experience to teach and undertake administrative or other highly specialized duties.

Some institutions experience more difficulty than others. It is well known, for example, that a certain unpopularity attaches to work with certain types of illness. 2/

### Industrial and Plantation

The local concept of industrial nursing is somewhat different from that held by the mainland. Usually, industrial nursing is confined to the factory and its employees. In the Islands there is some feeling that plantation nurses serving agricultural workers for the most part should be included. Since the inclusion or exclusion of these nurses is seldom specifically stated in data from either Hawaii or the mainland, statistics would appear rather unreliable for many comparative purposes.

Even so, industrial nurses are relatively much more common in the Islands. Using the 1946-1947 figure supplied by the Board for the Licensing of Nurses, 3/ it is seen that six percent of all licensed nurses in the Territory are of this category (compared to 3.4 percent of the A.N.A. membership). Both nationally and locally, according to these data, there was 0.1 industrial nurse per 1,000 population. An even greater disproportion is indicated by 1947 U.S.P.H.S. figures,

<sup>1/</sup> Honolulu Star-Bulletin, December 20, 1947.

<sup>2/</sup> Nursing Service Bureau, interview, November 5, 1947.

<sup>3/</sup> See Appendix Table 7.

<sup>4/</sup> See Appendix Table 8.

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which give Hawaii 87 industrial nurses. 1/According to these data, 2/there are 0.8 nurses per 1,000 wage earners in manufacturing industries on the mainland, compared to a Hawaiian figure of 3.5. Even assuming different concepts of such nursing, the difference between the two ratios is great enough to be significant.

The 63 industrial nurses licensed in the Territory in 1946-1947 were employed on six islands of the Territory, as follows: 3

Island	Number of Nurses	Population per Nurse
Territory of Hawaii	63	8,200
Oahu Hawaii Maui Kauai Molokai Lanai	41 7 7 5 1 2	8,800 10,100 6,400 7,000 6,200 1,800
Others	0	* * * * *

### Public Health Nursing

There is also a higher ratio of public health nurses in the Territory than on the mainland. In 1946-1947 these nurses comprised 8.3 percent of all nurses in Hawaii, compared to a mainland figure of about 7.7 percent. The local number per 1,000 population was 0.2; nationally it was 0.1. 4/ The ratio recommended for the Islands is one staff nurse to 5,000 population (it is now 1:5900).

Public health nurses were reported on four islands in 1946-1947, as follows: 5/

Island	Number of Nurses	Population per Nurse
Territory of Hawaii	88	5,900
Oahu	59	6,100
Hawaii Maui	13 7	5,500 6,400
Kauai Others 6/	9	3,900

- 1/ Quoted by Facts About Nursing, 1947, p. 38.
- 2/ And employment data from the Territorial Department of Labor and Industrial Relations and U.S. Bureau of Labor Statistics.
- 3/ See Appendix Table 7.
- 4/ See Appendix Table 8.
- 5/ Calculated from Appendix Table 7.
- 6/ The Director of the Bureau of Public Health Nursing asserts that there have been public health nurses on both Molokai and Lanai for several years.

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Care must be taken to maintain a sufficiently large number of both staff nurses and supervisory personnel. A ratio of one nurse per 2,500 population and one supervisor per ten staff nurses (assuming a bedside care program) is both feasible and advisable. Financial assistance should be continued to promising staff members for advanced training on the mainland to help attain this goal. The development of a bedside care program would necessitate increased personnel.

Most of the present staff nurses receive their pay from the Bureau of Public Health Nursing of the Territorial Board of Health. This Bureau was the source of funds for 84 of the 98 nurses and nurses' aides at work during the fiscal year 1946. The Venereal Disease Bureau maintained six, the Tuberculosis Bureau four, the Crippled Children's Bureau two, the Maternal and Child Health Bureau one, 1 and the U.S.P.H.S. one. 2

The three major types of service rendered are for tuberculosis, infant and preschool. Tuberculosis leads, with 23.3 percent of total visits. Infant care is second, at 21.2 percent, and preschool third, with 12.5 percent. A study of mainland data reports most visits to be for infant care, followed by preschool, school and tuberculosis, in that order. 3 The high position of visits devoted to tuberculosis in the Territory is undoubtedly a result of the high incidence of the disease in the Islands.

There is also a decided need for improved facilities. The physical plant provided public health nurses in Honolulu is generally adequate, but elsewhere it tends to be below minimum standards. These inadequate buildings in rural Oahu or the outlying islands should be repaired or replaced, and new offices and conference and clinic rooms should be constructed where necessary.

## School

School nursing, as distinguished from public health or other types, provided work for sixteen licensed nurses in Hawaii in 1946-1947. These nurses were employed by the Department of Public Instruction. No other field of service had such a small personnel (1.5 percent of total nurses). 4

- 1/ An Island public health nurse should be trained in maternal and child health.
- 2/ Annual Report of the Board of Health, Territory of Hawaii, 1946, p. 134.
- 3/ Ibid., p. 132. Locally, school visits rank eighth.
- 4/ See Appendix Tables 7 and 8.

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School nurses were found on four islands, as noted in the following table: 1/

Island	Number of Nurses	Population per Nurse
Territory of Hawaii	16	32,000
Oahu Hawaii	12 2	30,000 35,000
Maui Kauai	1	<b>45,000</b> <b>35,000</b>
Others	0	****

Thus, Oahu schools are best served by nurses, and Molokai, Lanai and Niihau have no full-time service at all. 2/ It should be noted, however, that public health nurses are furnished schools lacking a full-time D.P.I. nurse. Any expansion of school nursing service should take special cognizance of the outlying islands.

<sup>1/</sup> See Appendix Table 7.

These islands, along with Kahoolawe (1940 population of 1), are the least populous of the eight major islands in the Territory. Palmyra, of all the minor islands, was the only one with any inhabitants (32) in 1940. (See 1940 U.S.Census, Population, 1st Series--Number of Inhabitants, Hawaii, p. 2.)



Recommendations of COMMITTEE ON OCCUPATIONAL THERAPY

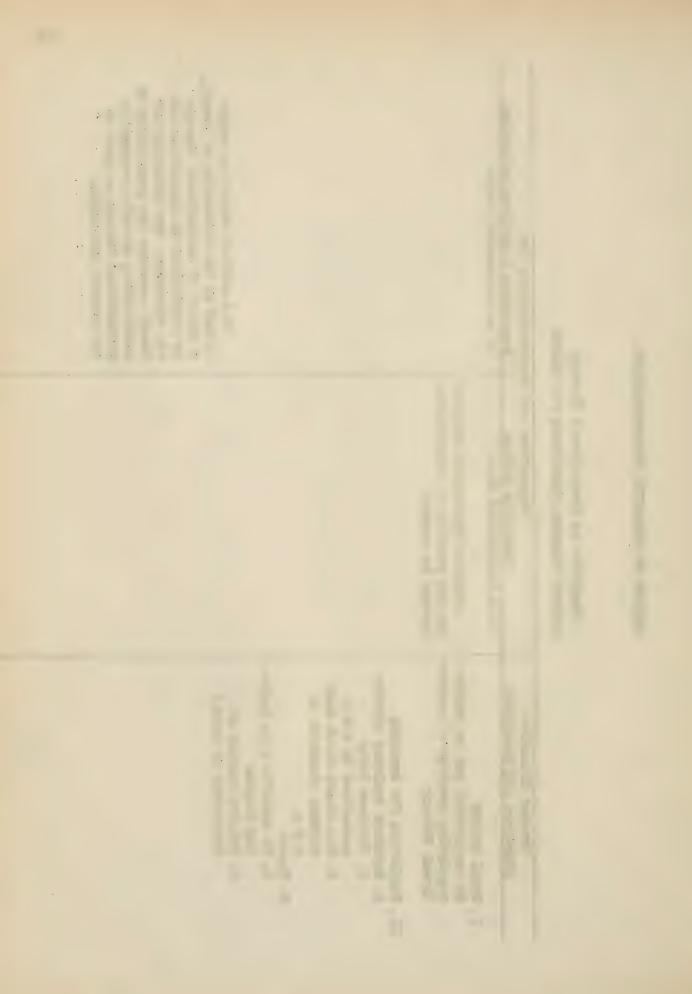
Mrs. Laura M. Dowsett, Chairman Lillian Lowrey Mrs. Jane E. Olson Esther Pyun



# OUTLINE OF SUGGESTED RECOMMENDATIONS

Committee on Occupational Therapy Postwar Planning Committees for Health

Suggestions and Recommendations for ate Action   Long-range Objectives or Action	It is recommended that:	If a medical school is estab- lished at the University of Hawaii, a school of occupational therapy be established in connection with it; otherwise, the University of Hawaii consider the possibility of establishing specific courses in occupational therapy as part of its present curriculum.
Suggestions and Immediate Action	It is recommended that: Adequate legislation regulating the practice of occupational therapy be enacted.	
(Services and Resources)	I. Legal status No territorial act or statute regulating practice of occupa- tional therapy.	A. Mainland training schools 1. Thirteen fully accredited by A.M.A. 2. Six others which meet minimum standards of A.M.A. B. Hawaii 1. No specific 0.T: train- ing program 2. Related courses at University of Hawaii
	1-4	H.



(Services and Resources)	Suggestions and Recommendations for Immediate Action Long-range Objectives or Action
Personnel in Territory (registered with Occupational	
Inerapy Association of Hawaii) A. By working status	
1. Active registered, 14, 2. Inactive registered, 8	
B. By place of work 1. Oahu, 13	
a. Civilian, 11 b. Military, 2	
C. Adequacy (recommended ratio is 1 0.T. to 250 patients)	
1. Areas a. Oahu, 1:264	
b. nemainder of Territory, 1:1344 2. Institutions	
a. Adequate (under	
1) Queen's, 1:102 2) St. Francis, 1:115	
3) Leahi, 1:154 4) Kula San., 1:165	
5) Maluhia, 1:176 (est.)	
b. Inadequate (over 1:250) All others	



Dong-range Objectives or Action		
Suggestions and Recommendations for Immediate Action	It is recommended that:	A well-planned educational program for both lay and professional groups be undertaken by the Occupational Therapy Association of Hawaii in order to interpret the need and value of occupational therapy in the treatment of ill and handicapped persons.
Present Situation (Services and Resources)	IV. Occupational Therapy Association of Hawaii A. Organized 1938 B. Affiliation with American Occupational Therapy Association C. Activities 1. Office at Queen's Hospital 2. Placement service 3. Apprenticeships arranged for pre-professional students 4. Scholarship Loan Fund a. Annual competition for award b. Annual calendar sale to help finance fund c. Awards to date, 6	V. General problems A. Public indifference or ignorance of value of occupational therapy in treatment B. Insufficient coordination with other medical services



Suggestions and Recommendations for ate Action	It is recommended that:	The education of Island girls as occupational therapists be encouraged by increasing the amount of the Scholarship Loan Fund and by making it available to more candidates.			
Suggestions and R Immediate Action	It is recommended that:	Territorial Civil Service ratings be changed from "SP" (semi-professional) to "P" (professional), in conformity with mainland standards.			•
Present Situation (Services and Resources)		C. Too few Island-born occupa- tional therapists  D. Lack of conformity of Civil Service ratings in the Territory with mainland standards			



#### OCCUPATIONAL THERAPY

#### Introductory

The comparatively recent emergence of occupational therapy as a valuable adjunct in treatment demands that special attention be focused on it. This field has not as yet had sufficient time to expand local facilities and personnel to recommended standards. Similarly, many lay and professional persons are still unaware of the nature and value of occupational therapy.

Occupational therapy is "'any work or recreational activity, mental or physical, definitely prescribed and guided, for the distinct purpose of contributing to and hastening recovery from disease and injury,' and it consists of occupations selected and prescribed for each individual patient with his or her particular needs in view. ... It must be clearly understood that occupational therapy is only a part of general therapy. Its aim is to help in the re-establishment of the patient (a) psychologically..., (b) physically ..., (c) socially ..., and ... (d) economically." 1

There are four main types of occupational therapy: diversional therapy, functional therapy, industrial therapy, and prevocational training in shop experience.

- a. Diversional therapy includes the simple arts and crafts, hobbies, and allied "handicraft" activities which serve to divert the mind from preoccupation with illness. A wide range of interests may be employed such as, dramatics, music, photography, the graphic arts, electricity, woodworking, leather working, radio and motor mechanics, and avocational pursuits.
- b. Functional therapy has a prescribed purpose. It is directed toward the restoration of function in injured or diseased muscles and joints, improving general physical condition, and contributing to the return of physical and mental health.
- Norah H. Haworth and E. Mary Macdonald, Theory of Occupational Therapy, 3d edition (Baltimore, 1946), p. 1. According to the U.S. War Department Technical Manual TM 8-291, Occupational Therapy (Washington, 1944), "occupational therapy is that form of treatment characterized by assignment to purposeful physical tasks and prescribed by a medical officer. It may be prescribed for restoration of function to injured or diseased muscles and joints; for controlled activity for nervous or mental disorders; for readjustment attending chronic diseases; for reeducation in permanent disabilities and for purposeful utilization of leisure time."

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- c. Industrial (work) therapy utilizes the everyday work situations. The patient is assigned to perform some useful work with a definite goal in mind. For example, the patient with a shoulder injury who needs to strengthen his muscles may be directed to saw wood or paint high surfaces. He performs useful work for the hospital, but also aids himself by strengthening his atonic arm and shoulder girdle muscles and indirectly by improving his general physical condition.
- d. Prevocational therapy comprises those prescribed exploratory shop processes which are planned to develop aptitudes and interests in a specific occupation to be used as a guide to vocational training ... 1/

The development of occupational therapy has been quite recent. A certain degree of diversional therapy was practiced by the early Egyptians, and in classical times the theory was advanced by Seneca and Galen. A few European and American hospitals instituted the use of a crude form of occupational therapy toward the end of the 18th century. It was not until the First World War, however, that modern, scientific treatment of the kind we know today had its inception and general adoption. The first School of Occupational Therapy was opened in Chicago in 1915. 2/ The Queen's Hospital, with the most favorable O.T. to patient ratio in the Islands, 3/ did not begin concerted effort along these lines until 1929. 4/

#### Legal Status

Legislation regulating occupational therapy in the Territory is badly needed. There is at present no Territorial Act or Statute controlling its practice locally. Consequently, any person engaging in any activity which in any way resembles occupational therapy can be employed under the title of O.T. As a protection to both the practice and professional interests of occupational therapy, and to superintendents hiring therapists, to the physicians prescribing it and to the patient for whom it is prescribed, a bill should be drawn up empowering the Board of Health to set up Rules and Regulations governing the practice of occupational therapy in the Territory.

- 1/ War Department, op. cit., p. 2.
- 2/ Haworth and Macdonald, op. cit., pp. 3-5.
- 3/ See Appendix Table 15.
- 4/ Eighty-sixth Annual Report of The Queen's Hospital, pp. 73-74.



#### Facilities for Training

Training facilities for occupational therapists are confined to the mainland. Even there, fewer than two dozen schools afford training in this field up to minimum A.M.A. standards. Locally, related courses are available at the University of Hawaii. The student must go elsewhere for specific training along professional lines.

Adequate training may be offered eventually in the Territory. If a medical school is established at the University of Hawaii (as has been proposed), a school of occupational therapy should be established in connection with it. Otherwise, the University could consider the inauguration of specific courses as part of its present curriculum.

#### Personnel

There are twenty-two occupational therapists registered with the Occupational Therapy Association of Hawaii. Fourteen are active. In addition, there are two students, as yet unregistered.

Most of the therapists in the Territory are working in non-military institutions on Oahu. Of the 13 working on Oahu, only 2 are in military establishments. The remaining registered O.T. works on the Island of Maui. The number and distribution of occupational therapists in Hawaii is given in considerable detail, in Appendix Tables 15 and 16.

In general, there should be one occupational therapist for each 250 patients. This standard was proposed by the War Department in 1944. 1/ The American Occupational Therapy Association has not published recommended therapist to patient or bed capacity ratios, and individual writers have been similarly reluctant to propose such ratios. 2/

According to the proposed standard of the War Department, only Oahu, of the Hawaiian Islands, is adequately serviced by occupational therapists. A ratio of 1:264, 3/ only slightly inferior to the proposed standard, prevails on Oahu. A ratio of 1:1344 prevails in the remainder of the Territory. These data are given in detail in Appendix Table 16.

<sup>1/</sup> Op. cit., p. 3.

<sup>2/</sup> See, for example, Haworth and Macdonald, op. cit., pp. 99-100; Louis J. Haas, Practical Occupational Therapy (Milwaukee, 1944), pp. 89-90.

<sup>3/</sup> Total registered O.T.'s to total patients.



Among individual non-military institutions, five establishments have a therapist-to-patient ratio better than that suggested by the War Department. These five include The Queen's Hospital, St. Francis Hospital, Leahi Hospital, Kula Sanatorium (on Maui), and Maluhia Nursing Home. The ratio exceeds 1:250 in all other Island institutions.

Comparison of Island hospitals with actual mainland averages reveals little difference. The Hawaiian ratio of one hospital 0.T. to 472 hospital patients (in 1946) is only slightly inferior to the 1946 mainland ratio of 1 to 431. Complete data regarding actual ratios on the mainland and in the Territory are given in Appendix Table 17.

Specific recommendations have been made by a group of occupational therapists employed in the Islands. Their suggestions would result, in many cases, in O.T. to patient ratios less than 1:250, but have the merit of immediate knowledge of local needs. The recommendations were based largely on experience with mainland O.T. departments, and intended to assure maximum operating efficiency. It was felt that the suggested standards could best be attained by an intensive educational program directed toward lay and professional persons. These specific recommendations are given in Appendix Table 18. Island personnel numbering 59 persons, 33 of them O.T.'s, 1/ are suggested.

#### Occupational Therapy Association of Hawaii

The local professional organization serving the therapists is the Occupational Therapy Association of Hawaii, organized in 1938 and affiliated with the American Occupational Therapy Association. Its office is at The Queen's Hospital. A placement service is operated, apprenticeships are arranged for pre-professional students, a scholar-ship loan fund is administered, and various educational, publicity and advisory services are initiated by this local professional organization.

The placement service is a major activity of this group. Island girls should be encouraged to become occupational therapists so that departments will be more stable, with less rapid turnover of personnel. Therefore, every effort is made to interest students in O.T. and to determine which students are good material and are best qualified for training. In this interest, students who are interested in going to the mainland for such training are encouraged to spend time as volunteers in one of the local departments.

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A Scholarship Loan Fund has been set up by the Association to further the education of Island girls in occupational therapy. The money is raised by means of an annual calendar sale. The girls must be residents of the Islands and have completed two years of University work. This fund could well be increased, and made available to more candidates. Six girls have already received this award.

Occupational therapy is still a comparatively new field and as such, the need and value must be interpreted both to lay and professional groups. Every occupational therapist is constantly endeavoring to educate the lay and professional groups with whom she comes in contact. In addition to this, however, the Association as a group plans exhibits, conferences with other medical services, and takes part in any activity which would serve as an educational one. The Association sends delegates to Honolulu medical agencies and councils. A campaign is conducted in connection with the calendar sale not only to sell calendars for the benefit of the Scholarship Loan Fund, but also to educate the public. A Committee on Credentials of the Association aids superintendents in employing O.T.'s of the best caliber. Cooperation with high school vocational guidance clinics promotes familiarity of Island girls with the field. The Association sends a delegate to the annual meeting of the American Occupational Therapy Association of which the local group is a chapter. Support is lent to the movement to change Territorial Civil Service ratings from "SP" (semi-professional) to "P" (professional), in conformity with mainland standards.



### Recommendations of COMMITTEE ON PHYSIOTHERAPY

Ruth Aust, Chairman Thomas Ching Mrs. Wilmar Downie Grace Ednie Carrol Moyer Mrs. Sybil Voorheis Bessie Young



# OUTLINE OF SUGGESTED RECOMMENDATIONS

## Committee on Physiotherapy Postwar Plenning Committees for Heelth

commendations for Long-range Objectives or Action	It is recommended that:			The board of trustees and others concerned in the operation of the new Convalescent Home consider the need for an attending physiotherapist and adequate facilities to provide service of high standard.
Suggestions and Recommendations for Immediate Action	It is recommended that:		No plans be considered for a training program for physiotherapists in the Territory until such time as a medical school may be established.	Outpatient clinics, which hitherto have shared hospital physiotherapy facilities with other departments, be given their own physiotherapy staffs.
Present Situation (Services and Resources)		I. Legal status A. Act 87 (R.L.H. 1941) B. Rules and Regulations, Territorial Board of Health, Chapter 14	II. Facilities for training A. Island, none B. Mainland schools for physical therapy technicians (approved by A.M.A., Sept. 1944) 1. Civilian, 23 2. Army, 4	A. Number, by place of work  1. Hospitals, 5 2. Other private institutions, 2 3. Private practice, 2 4. Territorial Board of Health, 2 5. Inactive, 2 5. Inactive, 2 5. Inactive, 2 1. In U.S., 37,000 2. In T.H., 58,000



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Recommendations for Long-range Objectives or Action	It is recommended that:	All hospitals and institutions consider and study the need for at least one physiotherapist on each of the other	islands in order that needs of physicians in utilizing physio-therapy in the treatment of patients may be met.		
Suggestions and Rec Immediate Action	It is recommended that:	In order to provide more adequate physiotherapy services on the other islands, hospitals and related institutions be encour-	aged to develop and utilize this service.  In order to interpret to	physicians, other professional groups and the general public, a "Physiotherapy Week" be sponsored by specialists in this field in cooperation with the Oahu Health Council. Special efforts be made to impress on laymen and professional persons the role of physiotherapy in treatment services and by physicians in private practice, and the need for trained physical therapists. Lay persons be warned against quacks and untrained persons.  Consideration be given to the greater promotion and utilization of physiotherapy in medical insurance and industrial health programs.	
Present Situation (Services and Resources)	C. Hospital patients per hospital physical therapist 1. In U.S., 315 2. In T.H., 849	D. Lack of physical therapists outside Oahu	IV. Problems A. Indifference or ignorance of persons outside the field 1. Professional persons	B. Inadequacy of services in industry.	



#### PHYSIOTHERAPY

#### Introductory

Physiotherapy is in much the same position as occupational therapy, with which it is frequently associated. Possessed of a similarly long history, it too has seen its greatest development in the past few decades. As a result, both fields of treatment have occasionally been misunderstood or underestimated by the public and by other medical sciences. Neither has yet seen its facilities catch up with its new knowledge. They suffer similar problems of personnel and training.

Physical therapy is "the treatment of disability, injury, and disease, by non-medicinal means comprising the use of massage, exercise, and the physical, chemical and other properties of heat, light, water, and electricity (except Roentgen Rays, Radium, and Electrosurgery)." 1/ In spite of a somewhat bewildering growth in the availability of complex machinery, however, massage and other manual therapy remain basic. This fact has been true since Hippocrates stated some of the fundamental tenets of physiotherapy, about 430 B.C. 2/ "Much has been written concerning various forms of physical therapy requiring expensive machines and apparatus for its application, and many of the profession are apt to overlook the fact that probably the most important single measure of physical therapy, and certainly that having the widest application lies in the hands of a well trained technician, intelligently directed by a physician. Massage, passive and active exercise, muscle training exercises and the application of heat represent practically the only physical therapy needed in the great majority of medical or surgical conditions." 3/

- American Physiotherapy Association. Constitution and Bylaws (Chicago, the Association, July 1942, p. 1) (quoted in U.S. Department of Labor, Women's Bureau, Bulletin 203, No. 1, "Physical Therapists," p. viii).
- 2/ Hippocrates, discussing the treatment of a dislocated shoulder, noted: "And it is necessary to rub the shoulder gently and smoothly. The physician must be experienced in many things, but assuredly also in rubbing; for things that have the same name have not the same effects. For rubbing can bind a joint which is too loose and loosen a joint that is too hard. However, a shoulder in the condition described should be rubbed with soft hands, and above all things gently; but the joint should be moved about, not violently, but so far as it can be done without producing pain." (Quoted in Handbook of Physical Therapy, American Medical Association, Chicago, 3d edition, 1939, p. 13).
- 3/ <u>Ibid.</u>, p. 13. The last sentence of the original statement is in italics.

Scientific physiotherapy, as we know it, is of relatively recent origin. Even before Hippocrates, "the ancient Egyptians, Greeks, and Romans knew the value of sun, water, exercise and massage. But it was not until 1925, when physical therapy had demonstrated its worth in World War I, that full recognition was given to it as a separate profession. Then the American Medical Association formed what is now its Council on Physical Medicine, whose activities have grown with World War II." 1/

There are several measures of this recent growth in physiotherapy. The number of full-time and part-time physical therapists in hospitals in the United States grew from 2,382 in 1936 to 3,107 in 1941 and 3,937 in 1946. 2/ The American Physiotherapy Association, organized in 1921, 2/ had 1,614 members in 1943, about 2,100 early in 1944, 4/ and more than 3,800 by 1946. 5/ There was a similar growth in the total number of physical therapists. 6/ Approved civilian schools rose from 13 in 1936 to 23 in 1944. 7/ The number of physical therapists employed in the Territory of Hawaii increased 22 percent between January 1946 and December 1947. 8/

#### Facilities for Training

The American Medical Association has established minimum requirements in educational background for physical therapists. Generally speaking, these specify approximately a year of study in an approved school of physiotherapy. Certain courses must be taken. These approved schools, in turn, state as prerequisites for admission either graduation from a school of nursing or two years of relevant college work, entailing the passing of certain subjects. 9/

- 1/ "Physical Therapy...A Service and a Career" (pamphlet of American Physiotherapy Association, New York, 1944?), p. 3.
- 2/ "Hospital Service in the United States," <u>Journal of the American</u>
  <u>Medical Association</u>, Vol. 133, No. 15, April 12, 1947, p. 1077.
- 2/ "The American Physiotherapy Association" (folder of the Association, no date).
- 4/ U.S. Department of Labor, op. cit., p. 2.
- 5/ See Appendix Table 20.
- 6/ "The American Registry of Physical Therapy Technicians estimates the pre-war number of physical therapists at 3,100, of whom about half were registered. Fewer than fifty of those registered were men." (U.S. Department of Labor, op. cit., p. 1).
- 7/ <u>Ibid.</u>, pp 2 f and 12 f.
- 8/ See Appendix Table 19.
- 9/ U.S.Department of Labor, op. cit., p. 8.

A number of approved schools of physiotherapy can be found on the mainland. Toward the end of the war there were 23 under civilian direction and four under the Army. 1/

The Islands are less fortunate; adequate facilities for training do not exist locally. No training program along these lines seems feasible until the establishment of a medical school in the Territory.

#### Personnel

There were thirteen civilian physical therapists living in the Territory late in 1947. Five worked at three hospitals, two with other private institutions, two in private practice, and two for the Territorial Board of Health. Two others were not practicing. In January 1946 there were nine civilian physical therapists employed in Hawaii, compared to eleven almost two years later. Detailed data are given in Appendix Table 19.

Relative to the United States, the Islands are somewhat short of total registered physical therapists. Nationally, there were about 37,000 people per registered physical therapist in 1946; locally, the number was 58,000. 2/ Since all the Territory's therapists are concentrated on Oahu, the actual ratio is much worse on the other islands of the group. Institutions on Kauai, Maui and Hawaii should be encouraged to develop adequate service in this field of treatment.

Island hospitals are similarly understaffed with regard to physiotherapy. Nationally, there are about 315 hospital patients per hospital physical therapist, in contrast to a local figure of 849. 3/ The adequacy of individual staffs cannot be analyzed; authorities have been extremely reluctant to postulate a standard patient to therapist ratio for institutions, 4/ and no such ratio that is generally acceptable can be found in the literature. It seems evident, however, that existing general hospital outpatient clinics in Honolulu are in need of their own physiotherapy staffs. At the present time they share the hospital's personnel. Adequate staff and facilities for physiotherapy should also be provided the projected convalescent home upon its completion.

- 1/ <u>Ibid.</u>, p. 12 f.
- 2/ Most recent comparable data. See Appendix Table 20.
- 3/ See Appendix Table 21.
- 4/ See, for example, the A.M.A. <u>Handbook of Physical Therapy</u> (op. cit.), pp. 503 ff., and <u>The 1939 Year Book of Physical Therapy</u> (Richard Kovacs, ed.; Year Book Publishers, Chicago, 1939), pp. 9 ff.

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#### Problems

One major problem confronting physical therapists is the indifference or ignorance of persons outside the field. This could be partly overcome by a "Physiotherapy Week" under the sponsorship of specialists in the field in cooperation with the Oahu Health Council. Special efforts could be made to impress on other professional persons and on laymen the importance and nature of physiotherapy. Emphasis could be placed on the need for well-trained therapists, and the public warned against quacks and inadequately trained workers.

Another problem is the paucity of physiotherapy in industry. A related difficulty is the unwillingness of some medical insurance companies to include physiotherapy in their programs. An intensive educational effort by the Territorial Chapter of the American Physiotherapy Association and other interested groups would help solve these problems.



### Recommendations of COMMITTEE ON HEALTH STATISTICS

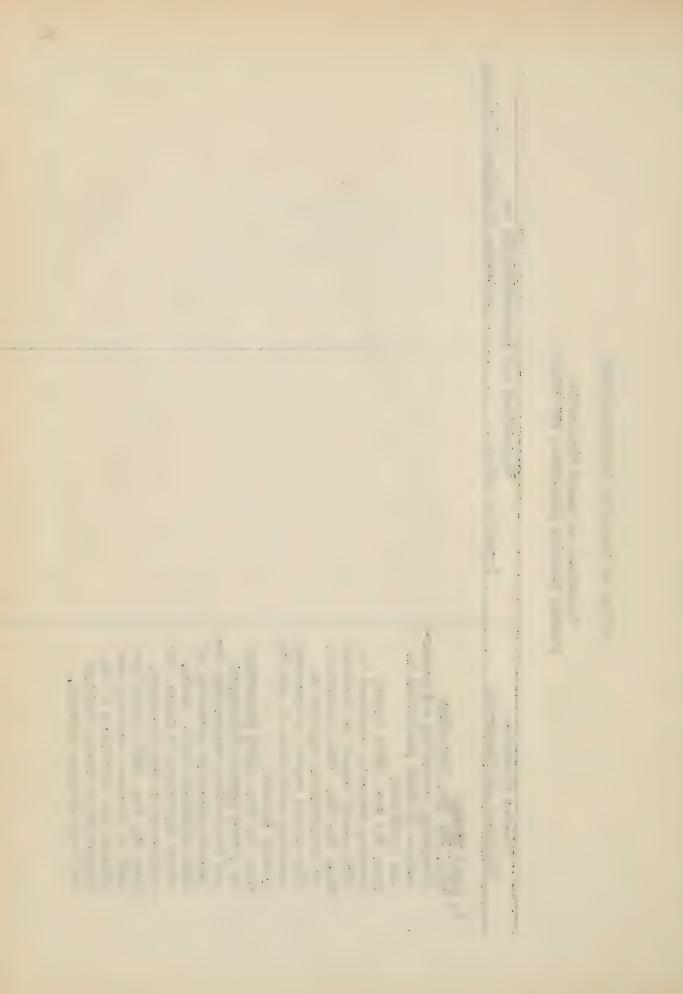
Andrew W. Lind, Ph.D., Chairman Samuel D. Allison, M. D. Edward Chong Eric George A. L. Y. Ward William Wong Margaret S. Wright



# OUTLINE OF SUGGESTED RECOMMENDATIONS

## Cornittee on Health Statistics Postwar Planning Committees for Health

(Services and Resources)	Suggestions and Irmediate Action	Recommendations for Long-range Objectives or Action
I. Legal Status Chap. 60; Sec. 3101-3128 Obtaining, recording and preservation of vital statistics in the Territory.		
Chap. 61; Sec. 3523; Hamail Housing Authority required to file annual report to Covernor. Chap. 64; Sec. 3806; Department of Institutions required to		
file annual report to Governor, covering activities of each division thereof. Chap. 71; Sec. 4117; Department		
of Labor; Bureau of Research and Statistics, responsible for investigation and gathering of data regarding vages, hours,		
other conditions of labor, and employment in the Territory.  Chap. 84; Sec. 4810; Annual report to Governor covering conditions and activities of the		
Department of Social Welfare and each division thereof.		



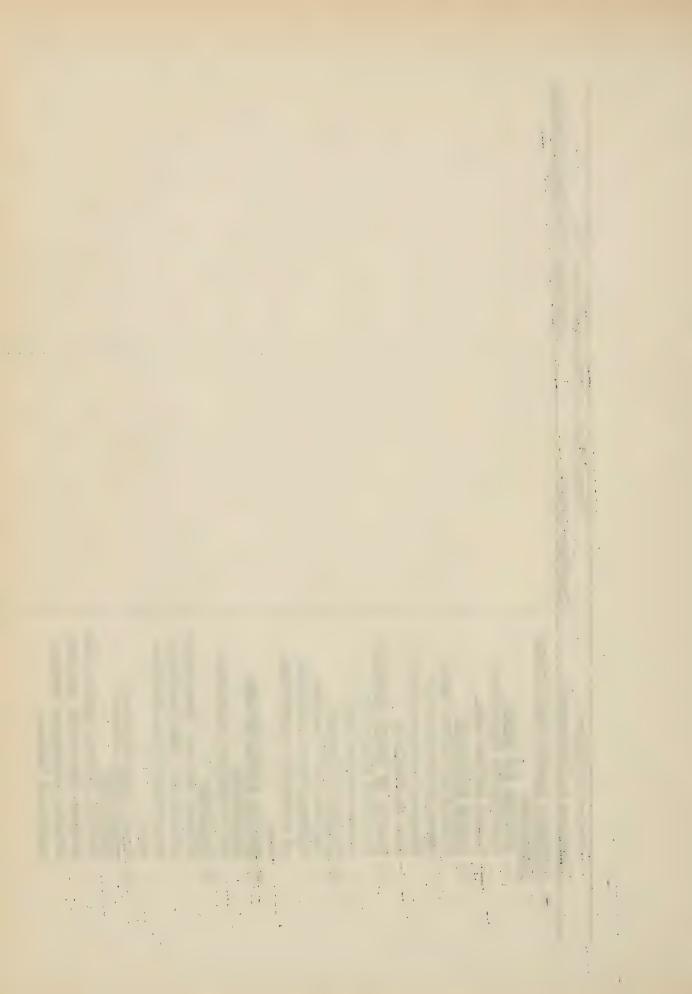


ditions (water, serage, food, drug, housing), general health indices and trends, population.  b. Department of Public Instruction-Health status of school-age group; vocational rehabilitation; etc.  c. Department of Institutions-Hospitalization of nental patients; crine and rehabilitation of nental patients; crine and rehabilitation of juvenile delinquents.  d. Board of Hospitals and Settlements-Leprosy.  e. Department of Labor Industrial accidents; workmen's compensation.	
workmen's compensation.	
cost of living; employ-	
I. Department of Public WelfareIndicent medical	
dental care and hospitali-	
zation; medically needy;	
general assistance; aid	
to blind; aid to depen-	
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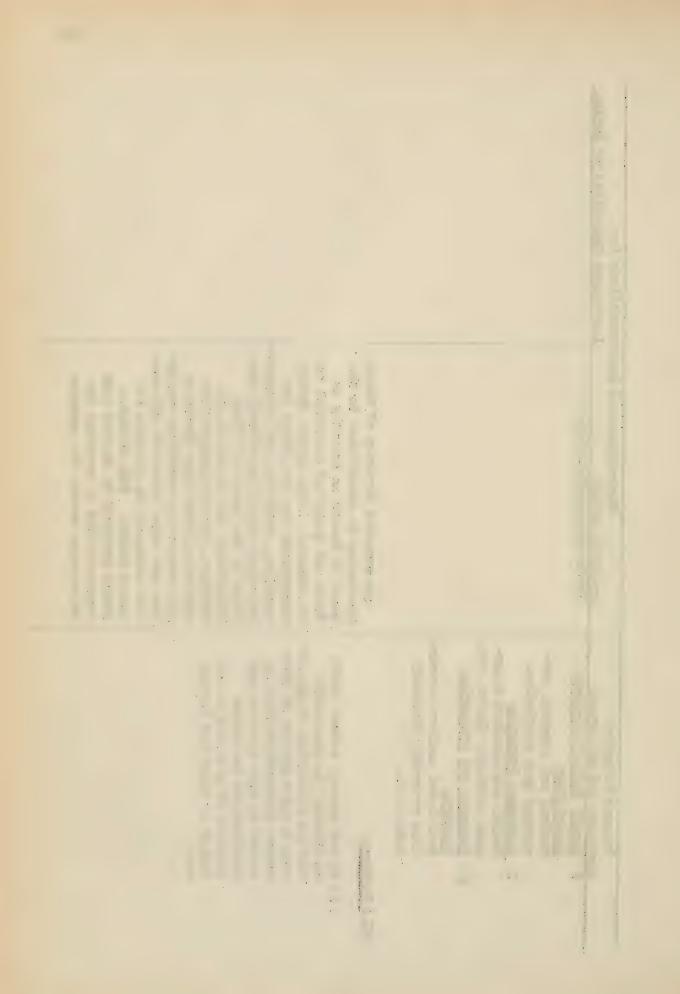
tion Suggestions and Recommendations for Sources) Immediate Action	on- education a in the aii Clinic Clinic sure- superi- (HSPA co- ncy) ion, agri- iculture i. animal resources traffic s and ser-
Present Situation (Services and Resources)	ali in



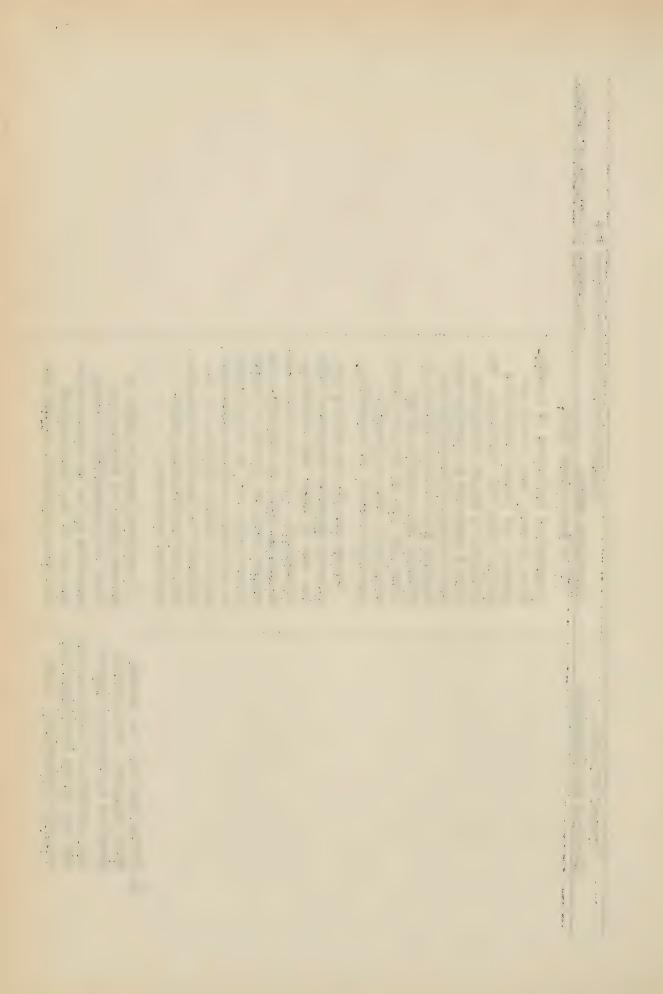
commendations for Long-range Objectives or Action		
Suggestions and Recommendations Immediate Action	Po P	
Present Situation (Services and Resources)	B. Voluntary Agencies and Private Enterprise  1. American Red Cross Home Service Department Social welfare data.  2. Palama Settlement Medical and dental care; types and frequency of diseases; socio-economic data on families.  3. Council of Social Agencies Secondary scurce for socio-economic data.  4. Chamber of Commerce Business and financial indices; types and kinds of commercial enterprises; etc.  5. Medical Social Service Association Socio-economic statistics. 6. Hospitals Illness indices; duration of illness and other pertinent data regarding hospitaliza- tion.	7. Hawaii Sugar Planters Association Medical, dental, nursing care program; industrial accident illness; plantation workers employment indices.



Suggestions and Recommendations for tion Long-range Objectives or Action		of Health d in the tly as onnel can y should es for interpret- eady pro- ital d, in ry for nctions y statis- informa- ng for ision ed with ng the ccurate
Suggestions Immediate Action	It is recommended that:	An expanded Division of Health Statistics be established in the Board of Health as promotly as funds and qualified personnel can be obtained. This agency should incorporate the facilities for compiling, analyzing and interpreting vital statistics already provided by the Bureau of Vital Statistics; but it should, in addition, set up nachinery for performing these same functions with respect to morbidity statistics and other biometric information necessary in planning for better health. This division should properly be charged with responsibility of securing the information needed for accurate
Present Situation (Services and Resources)	8. Hawaii Medical Services Association Medical and hospital prepayment plan statistics. 9. Insurance Companies Health and accident insurance coverage; claims, etc. 10. Business and industrial concerns Health and accident prevention programs; frequency rates; etc.	A. No one agency, either public or private, is responsible for the collection of all, or even a major portion of bionetric information which is needed by many agencies and institutions for proper planning of programs in relation to basic and factual data.



Suggestions and Recommendations for Trmediate Action	ed that:	intercensal estinates of population by race, sex, broad age groups, and larger geographic units within the Territory. The Division of Health Statistics should endeavor to develop uniform as the estred statistics—uniform as between the agencies of the Territory and at the same time, consistent with nationally accepted nethods of reporting.  Since not all the public and private agencies concerned with the use of vital and morbidity statistics, population and other bionetric data are directly connected with the Board of Health, there might well be established an advisory cormittee representing all health agencies in the cormunity to assist in integrating and coordinating their various interests.	Inmediate steps be taken to secure detailed information from the responsible military agencies as to the novement in and out of the Territory of civilian population during the
Present Situation	מות יוספים מות יוספים מות יוספים מיוספים מות יוספים מיוספים מי		B. During the war, the peace- tine machinery for securing detailed information regard- ing movement of civilians in and out of the Territory was entirely dislocated. Such



Suggestions and Recommendations i	umediate action Long-range C
Present Situation	(Services and Resources)

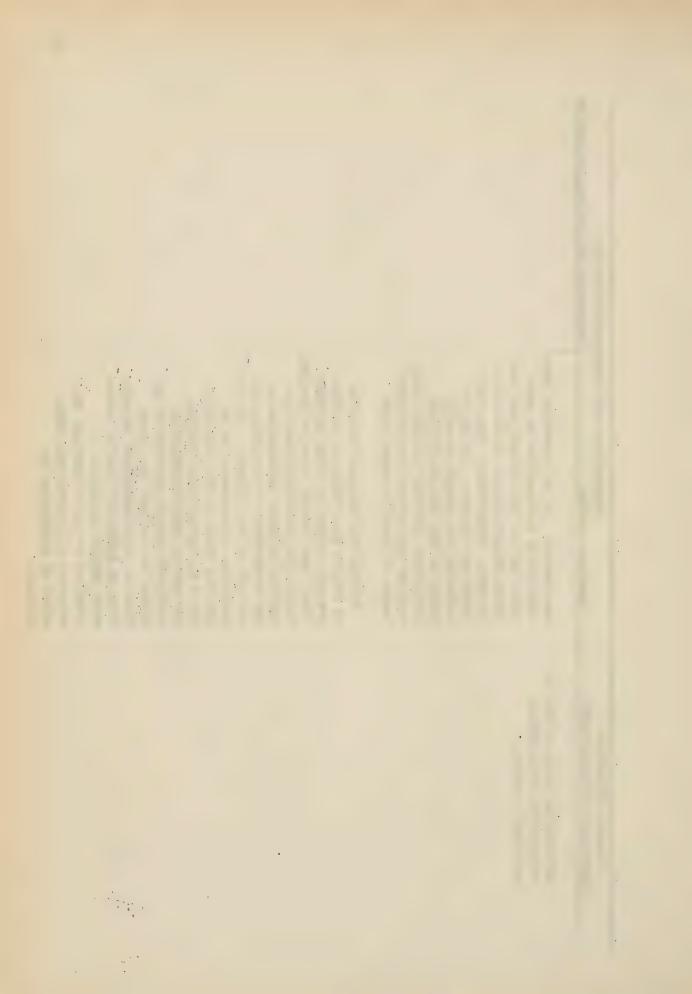
information must now be reconstructed from several

scattered sources.

Objectives or Action

war period. It is important that this vital information be garnered before the records are lost. These data should be broken down by race, citizenship, sex, and broad age classes. It may be necessary to provide special funds to the Bureau of Vital Statistics in order to fill this serious gap in the funded knowledge of Hawaii's population.

tics. Territorial Board of Health, and out of the islands. The copresent Bureau of Vital Statisavailable should perhaps be exfigures of inter-island travel. Data on intra-territorial move-Within the proposed Division of Health Statistics or in the the movements of population in funding routine information on obtained so as to increase the facilities be established for accuracy of intercensal estiexisted prior to the war with the U.S. Immigration Service panded to include the gross operative arrangement which for making such information ment should doubtless be population by mates of islands.



rendations for Long-range Objectives or action			
Suggestions and Recommendations for Immediate Action  It is recommended that:	A request immediately be forwarded to the Census Bureau, Washington, D.C., for the conplete tabulation of the 1940 census of population. Even though much of the information is already out of date, the tabulations should be obtained both as the best information now available and as a basis of comparison with previous and subsequent censuses.	Innediate action be undertaken through the Hawaiian delegate to Congress and the Department of the Interior to include Hawaii in all census reports from Washington giving information by states and cities.	Local agencies take greater cognizance of the information available by census tracts, and make increased use of these areas in collecting and analyzing data (e.g., delinquency or disease incidence) for which they are responsible.
Present Situation (Services and Resources)	C. Only a fraction of the sum- naries on population and occupation prepared in pre- vious census reports are yet available for the 1940 census.	D. Hawaii is not included in all population and census reports from Washington giving information by states and cities.	E. There has been insufficient use of census tracts, both by the U.S. Bureau of the Census in its collection of data, and by local agencies in their utilization of census data or collecting their own data.



Commendations for Long-range Objectives or Action	
Suggestions and Recommendations Immediate Action  It is recommended that.	Efforts of the Chamber of Commerce special committee on census needs and similar groups to assure an adequate Federal census in 1950 (especially in regard to census tract data) be expanded and encouraged.
Present Situation (Services and Resources)	



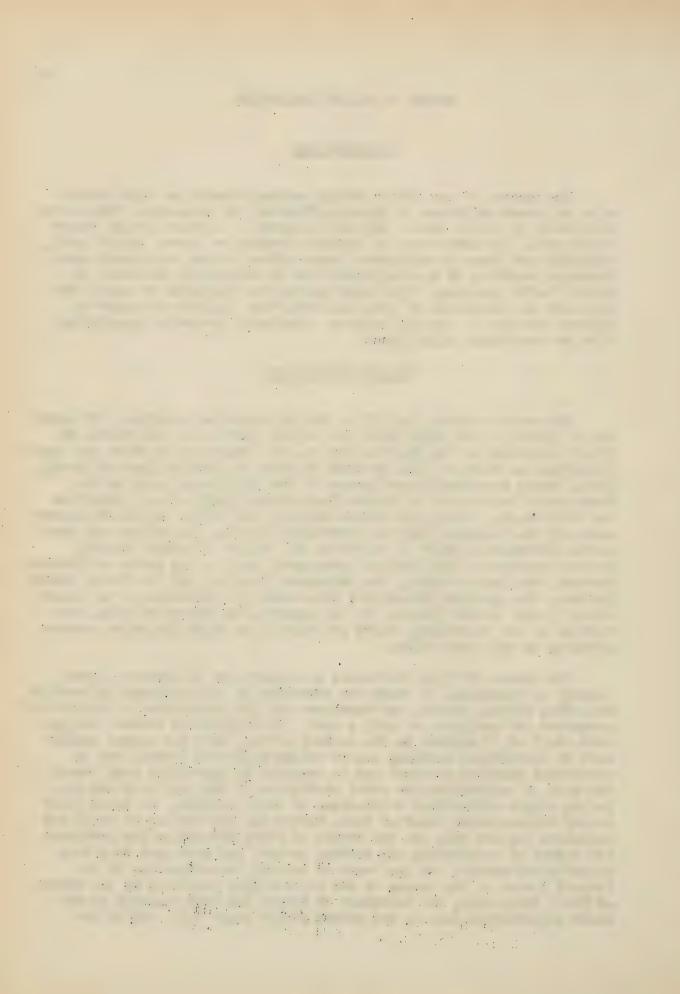
#### Introduction

The success of any public health program depends on exact knowledge of a vast multitude of factors affecting the community. Statistics pertaining to birth, death, and the incidence of disease are no longer sufficient. The importance of economic factors -- income, price level, stability and type of employment, among others -- has been recognized. Accurate reporting of housing conditions is considered essential to public health planning. Spot maps showing the incidence of sexual delinquency or industrial or home accidents have decided relevance to various aspects of a health program. Complete, up-to-date population data are especially significant.

#### Present Facilities

The present public facilities for the resources reporting and analysis of public health statistics are chiefly confined to the Bureau of Vital Statistics of the Board of Health, the functions of which are legally defined in Sections 3101 to 3128, Chapter 60, Revised Laws of Hawaii, 1945. Other departments and bureaus of the government, such as the Territorial Departments of Public Instruction, Institutions, Hospitals and Settlements, Labor, and Public Welfare, the Police and Health Departments of the Counties, and the Territorial courts, all collect and summarize information which is useful to the student of public health. Various agencies of the Federal Government, such as the Bureau of Internal Revenue, the Census Bureau, the Employment Service, and the Public Health Service, also provide statistical data which are available in the analysis of public health trends. It is, however, the Bureau of Vital Statistics of the Territorial Board of Health upon which the major responsibility in this area falls.

The Bureau of Vital Statistics is called upon to perform a great variety of functions, of which the recording of all pertinent information regarding births, deaths, and marriages and the preparation of statistical summaries and analyses are only a part. It is doubtful whether the present staff of 13 workers in the central office, with its meager compliment of statistical machines (an 80 column Hollerith sorter, and an electrical punching machine) can be expected to accomplish much beyond the task of registering the vital statistics of the Territory and preparing simple statistical tabulations of these records. It seems clear to any dispassionate observer that, within the limitations of staff and equipment imposed upon it, the Bureau of Vital Statistics has performed its duties of registering all births, deaths, and marriages in a very satisfactory manner. On the basis of careful investigations by the Federal Bureau of the Census of the registration conducted by the Bureau of Vital Statistics, the territory of Hawaii has been included in the Death Registration Area of the United States since 1917, and in the



Birth Registration Area since 1929. Hawaii's rating of accuracy in reporting was 97.0 per cent for deaths and 93.0 per cent for births, which later increased to 97.7 per cent. The services of the Bureau have been less adequate with respect to the analysis of its statistics, but this deficiency should be partially removed during the next year with the appointment of a statistician in charge of public health statistics.

Several other bureaus of the Board of Health, including those of Communicable Diseases, Venereal Diseases, Tuberculosis, Mental Hygiene, and Child Health and Crippled Children, are charged with the responsibility of collecting statistics on the incidence of various diseases within their respective fields. The adequacy of the reporting of disease depends very largely upon the attitudes of the general population and upon the cooperation of the medical profession; and it must be conceded that an extensive educational program will be necessary, perhaps supplemented by legal reenforcement, before Hawaii's morbidity statistics can be considered at all adequate.

A surprisingly complete and satisfactory reporting of the incidence of the common diseases on the Hawaiian sugar plantations occurs under the auspices and direction of the Hawaiian Sugar Planters' Association, and indicates what might be accomplished on a Territory-wide basis with adequate facilities and legal enforcement. Most of the other private agencies interested in gathering morbidity statistics, such as the hospitals, both private, and the larger employers, lack the facilities for integrating and correlating their findings. There is, moreover, a great disparity between the forms used and the care exercised in the recording of significant data by the various agencies.

#### The Funding and Integration of Statistics

The apparent gaps in the present coverage of morbidity statistics and the lack of coordination and adequate analysis of the statistics now available strongly suggest the need of some integrating agency. The Bureau of Vital Statistics, by virtue of its official status and its present staff and equipment, seems the logical agency to assume such functions, and it is recommended that a Division of Health Statistics be established in the Board of Health as promptly as funds and qualified personnel can be obtained. The agency should incorporate the facilities for compiling, analyzing, and interpreting vital statistics already provided by the Bureau of Vital Statistics; but it should, in addition, set up machinery for performing these same functions with respect to morbidity statistics and other biometric information necessary in planning for better health. This division should serve as a central clearing house for statistical data gathered by and useful to all agencies in the community, both public and private, dealing with problems of health.

This proposal is consistent with that of the Committee on Public Health Administration, which recommends the establishment within the Board of Health of a Division of Public Health Statistics.

The use of microfilming equipment for the filing of records and for the reproduction of legally acceptable certified copies of records is being adopted in some states and might profitably be investigated for uses in Hawaii. Especial attention should be directed to the analysis and interpretation of the statistics gathered, and this aspect of the program should be under the direction of personnel trained not only in formal statistical principles, but also with a well-grounded understanding of the social forces operating in the Territory. Detailed analyses of population and vital statistics so as to permit the preparation of life expectancy tables for Hawaii would seem to be a major responsibility of this division.

Since not all the public and private agencies concerned with the collection and use of vital and morbidity statistics are directly connected with the Board of Health, it seems desirable that an advisory committee to the Division of Health Statistics be established to assist in the integration and coordination of these various interests. All the major agencies in the community concerned with public health statistics, such as the Hawaii Medical Service Association, the hospitals, the life insurance companies operating in Hawaii, the University of Hawaii, the larger employers, and the labor unions, should probably be represented on such an advisory committee. Many valuable functions might be performed by the advisory committee if it is carefully selected and its liaison and technical resources are seriously utilized.

#### Special Problems of Population

The maintenance of accurate information on the shifting population of the Territory, including its various subdivisions by age, sex, ancestral, and geographic groupings, is basic to the solution of almost every problem of public health and therefore deserves special attention. Certainly, one of the central functions of the Division of Health Statistics recommended in this report should be to provide intercensal estimates of population with the maximum accuracy which our unique island situation makes possible.

Hawaii, by virtue of its insular character and its moderate size, is far better situated than most mainland communities to provide adequate biometrical information for its public health program. No state in the union can obtain the ready check upon the movement of population in and out of its borders which the Hawaiian Islands afford. With relatively little expense and a minimum of legislative support, Hawaii might establish a type of continuous population census which would be invaluable for public health analysis and the envy of every mainland health administrator. People do not cross Hawaii's two-thousand mile water barrier by foot or in their own automobiles, and it would be relatively easy to obtain a perfect and up-to-date record of all population movement in and out of the various islands of the group. Similarly the internal changes in population by age, sex, and ancestry could be easily recorded for use by the public health analysis. The centralized system

1,7

of political and economic control in Hawaii, in contrast to that of most mainland communities, lends itself readily to the easy and inexpensive reporting of population, mortality and morbidity statistics.

Prior to World War II and since its close, the Bureau of Vital Statistics obtained data from the steamship companies and the Federal Immigration Service as to the movement of population in and out of the Territory so as to provide, together with its own records of births and deaths, a highly accurate basis for estimating the total population of the Islands. Unfortunately, during the war, the machinery for obtaining figures of arrivals and departures was completely disrupted, and one of the first obligations of the Division of Health Statistics should be to reconstruct as accurately as possible the figures of population mobility during this period from the various official sources. This task should be undertaken so as to test the accuracy of the current estimates of population based upon the wartime enumeration and subsequent computations of population by the Office of Civilian Defense.

The effectiveness of our public health program in the treatment and prevention of specific diseases, such as tuberculosis, pneumonia, cancer, and other diseases which are peculiar to certain age periods, can only be tested by the computation of refined rates based upon accurate population figures by specific age groups. In order to make such studies possible between census periods (1930, 1940, 1950, etc.), the Division of Public Health Statistics should institute as quickly as possible, and certainly by 1950, a system of computing intercensal estimates of population by broad age groups and by sex. Figures for intercensal years by racial groups have been obtained in the past, and these estimates should likewise be continued.

The decennial census by the Federal government provides the basic information regarding population which all subsequent computations of population and of nortality and morbidity rates are necessarily based. It becomes highly important to the public health program of the Territory, therefore, that the decennial census be conducted with maximum accuracy and that the results become available so as to meet the needs of students of public health within the Territory. One of the most valuable functions which the Advisory Committee could perform to the Division of Health Statistics would be as a liaison between the local community and the Federal Census Bureau in matters relating to population. For example, a request should be forwarded immediately to the Census Bureau for the tabulation of a considerable number of items in the 1940 census which have thus far not been made available to Hawaii. Even though much of the information is al= ready out of date, the tabulations should be obtained both as the best information new available and as a basis of comparison with previous and subsequent censuses. Similarly strong representations should be made through the Hawaiian Delegate to Congress and the Department of Interior to guarantee that Hawaii is included in all population and census reports from Washington giving information by states and cities. Periodic reports, particularly from the Census Bureau, provide valuable information on population, vital statistics, housing, manufactures, agriculture, prices,

(1) If the company of the control of the control

income, and government finance for the various states and local communities of continental United States. Although most of the information for such reports is sent to Washington by local agencies in Hawaii or could easily be provided, the Territory is rarely included in the published reports. Frequently the significance of local experience becomes apparent only through comparison with mainland communities. This is particularly true in the field of vital statistics. The Advisory Committee of the Division of Health Statistics should play a prominent role in the planning for the 1950 census of population in Hawaii.

Special attention should be given to census tract data. Experience has proved such statistics to have considerable value in analysis and planning, yet little use has been made of tracts, either by the U. S. Census or local agencies. In many mainland cities, information regarding housing, income, disease, accidents, delinquency and educational attainment, as well as population data, are collected by census tracts. Some of this work is done as part of the decennial Federal census, but a good deal of it is accomplished by the various local official and voluntary agencies -- the Police Department, Board of Education, health authorities, social agencies, or local university. The resulting fund of information has permitted extremely valuable ecological studies in a number of fields. An additional breakdown of housing data into block statistics was made available by the Bureau of the Census in 1940 for cities over 50,000 population. Stops should be taken to assure the maximum use of tracts by the Federal Government in the 1950 U. S. Census. and by the various local agencies in planning their cwn surveys.

<sup>1/</sup> An excellent beginning has been made along this line by a special Chamber of Commerce committee on census needs.

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### APPENDIX

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#### Appendix Table 1.

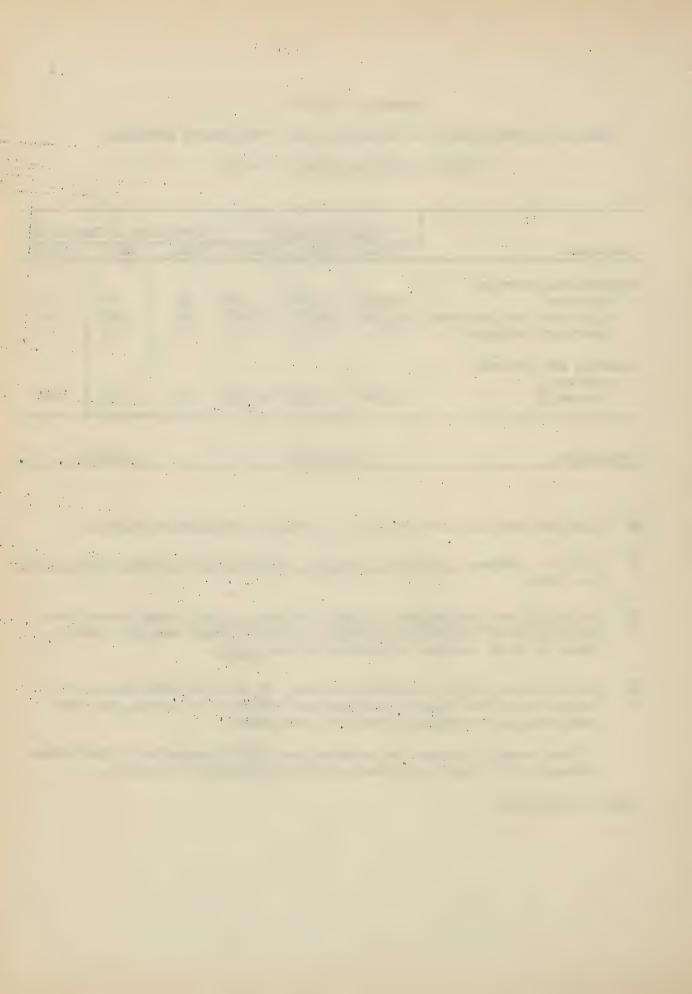
## FERSONS GAINFULLY EMFLOYED IN MEDICAL AND OTHER HEALTH SERVICES, UNITED STATES AND HAWAII, 1900 2/

	Unite	d States	b/	Territo	ry of Ha	waii º/
Occupation	Total	Male	Female	Total	Male	Female
Professional service:  Dentists Physicians and surgeons Veterinary surgeons	29,665 132,002 N.A.	28,858 124,615 N.A.	;	21 109 6	20 105 6	1 4 0
Domestic and personal service: Nurses d	120,956	12,265	108,691	207	18	189
Fopulation	75	,994,5 <b>7</b> 5			154,00	01

- Data not available for the City of Honolulu (population 39,306).
- b/ 1900 U.S. Census, Abstract of the 12th Census of the United States, 1900, pp. 24-25.
- Report of the Commissioner of Labor on Hawaii, 1901 (data quoted from tabulations of the 12th U.S. Census), p. 80. These data are given by place of birth (native or foreign) in the Report.
- United States figure includes midwives. It will be noted that no U.S. Census since 1900 lacks a professional category for nurses, the last such omission occurring in the 1900 schedules.

There were 1.6 nurses and midwives per 1,000 population in the United States in 1900, and 1.3 nurses per 1,000 population in Hawaii.

N.A. Not available.



# Appendix Table 2

PERSONS CAINFULLY EMPLOYED IN MEDICAL AND OTHER HEALTH SERVICES, UNITED STATES, HAWAII, AND HONOLULU, 1910

		1				19			, b/
Occupation	Total	Male	Female	Total Male Femal	Male	Female	Total	city of Honolulu =	Female
Professional service:	20 000	20 7/2	240	NT A	A 17	N IN	N. T.	× 14	37 3
Direction	166,60	7,00,143	1,524	N.R.	N.A.	N.A.	N.A.	IN . A .	IN . A.
rnysicians and surgeons	82,327	5,819	76, 508	N.A. d	N.A.	17.0	N.A. d	d/ N.A.	103
Veterinary surgeons	11,652	11,652			N.A.	N.A.		N.A.	N.A.
Gomi marfocci one I minerii tee		elde de estare de reve	· ·					- b- vidy@safed	tijikini die
Healers (except physicians	en glassy words. We want of		puly resident		A A realisement of				
and surgeons)	6,834	2,162	4,672	N.A.	M.A.	N. A.	N.A.	N.A.	N.A.
	√ a spar-de	· consider							
Domestic and personal services:	as at ratio	ne naz a nedici		ga		-		no r wat the	W donation: T.A.
(not troined)	7.33 07.3	14 926	717 717	N	NA	C.	7	V.	N
A day were	6,20,5	02/6/7	6.205	N N	N		N		
Nurses (not trained)	126,838	15,926	110,912		M.A.		H . A.	N. P.	N.A.
Population	91,	,972,266			191,909	A Court work	10	52,183	:

1910 U.S. Census, Vol. IV, Population, Occupation Statistics. B

Ibid., pp. 609-611. These data are given by age and by race in the Census volume. Nurses per 1,000 population (Hawaii and Honolulu estimated): 0.0 Trained nurses

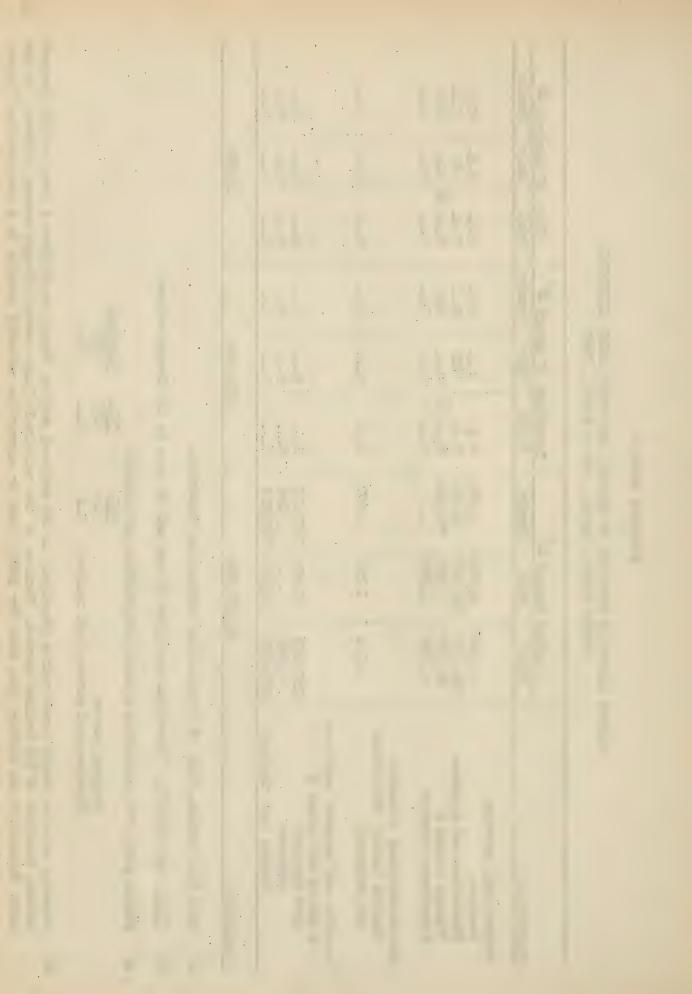
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Midwives and nurses (not trained)

Honolulu 2.1 E 0

nurses; Honolulu of 111 trained nurses. Because of the relatively large number of male nurses in Hawaii in the Assuming male to female nurse ratios identical to the national ratios, Hamaii would have a total of 151 trained early decades of the century (see data for 1920), such an assumption probably results in a conservative figure.

N.A. Not available.



Appendix Table 3
PERSONS GAINFULLY EMPLOYED IN MEDICAL AND OTHER HEALTH SERVICES
UNITED STATES, HAWAII, AND HONOLULU, 1920

	Uni te	United States	वि		Hawaii	19	City	of Ho	City of Honolulu c/
Occupation	Total	Male	Female	Total	Male	Female	Total	Male	Female
Professional workers:	1	(	6	The second second			ÓC	200	
Ventusts	56,15%	3,367	1,663	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Physicians and surgeons	14,977	137,758	7,219	160	153	7 233	95	06	177
Veterinary surgeons	13,494	13,493		9	9		m	m	*
Semi-professional workers: Healers not elsewhere classified e/	14,774	6,872	7,902	97	33	14	27	17	10
Other workers: Physicians and surgeons attendants	7 083	7	01/ 4	2	<	N	\$ ************************************	V N	
Dentists assistants and attendants	6,708	1,768	7	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Midvives and nurses (not trained) d/	156,769	19,338	(4)	198	20	17,8	136	29	107
Mineso (not tening)	4,773	• • • • • • • • • • • • • • • • • • • •	-	625	0 (	6	7	:	4
(non oranied)	13.1.9790	14,236136	1,56,05%	189	20	139	132	56	103
Population		7.501	105.710.620		255,912	C	or neverges	705 EA	

Ibid., p. 1275, Ibid., consists of urban Honolulu वेगेने

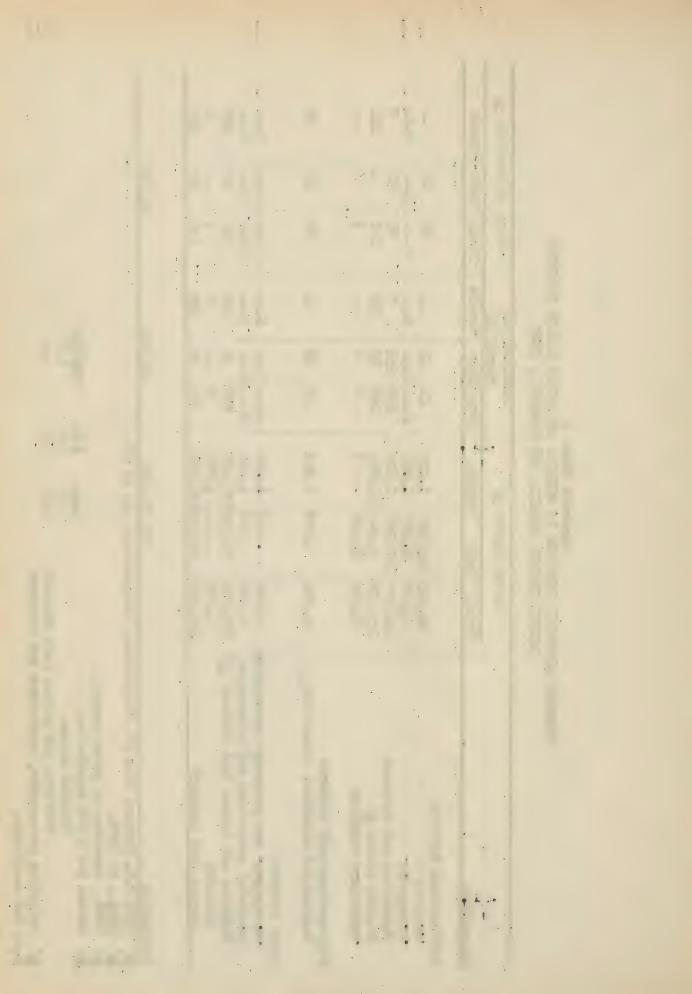
Nurses per 1,000 population:

Midwives and nurses (not trained) Trained nurses

ê/secluding osteopaths, physicians and surgeons N.A. Not available.

1.H. 1.5

Honolulu 1.7



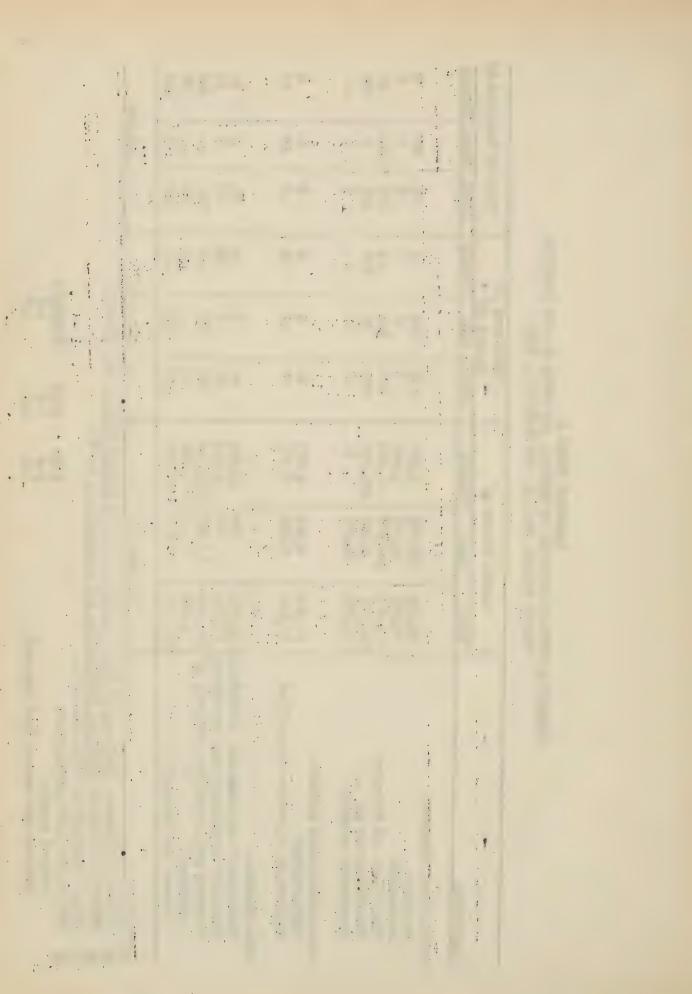
PERSONS GAINFULLY EMPLOYED IN MEDICAL AND OTHER HEALTH SERVICES, UNITED STATES, HAWAII, AND HONCLULU, 1930 Appendix Table 4

	United	sed States	<u>a</u> /	Ter	Territory Havaii b/	of	City	of Hon	Honolulu c/
Occupation	Total	Male	Female	Total	Male	Female	Total	Male	Female
	-								
Professional Workers:	10-10-001								
Dentists	71,055	69,768	1,287	132	129	3	82	82	w
Osteopaths	6,117	4,554	1,563	20	2	9	3	-	N
Physicians and surgeons	153,803	146,978	6,825	255	241	177	167	153	77
Trained nurses d/	294,189	5,452	288,737	707	10	697	493	5	488
Veterinary surgeons	11,863	11,852	11	12	22	:	2	2	
Semi-professional Workers:									
Chiropractors	11,916	9,203	2,713	10	60	2	0	9	CV
Healers not elsewhere classified	17,640	7,866	9,774	58	75	91	43	28	15
Other Workers.									
Physicians and surgeons attendants	17,0/2	689	13.343	20	u	4	1,	•	6
Dentists' assistants and attendants	13,715	770	12.975	27.	14	100	לבר ב	4 "	27
Midwives and nurses(not trained) d/	157,009	13.867	143,142	368	119	570	220	2	168
Midvives			3,566	57	-	7.5	26	1	200
Nurses (not trained)	153,443	13,867	139,576	323	119	204	203	159	142
Population	125	122,775,045			368,336	9		137,582	82
104.) II & Congin Abatrach of 11.0	8 10.00	1 1 1 1 1	77						

1930 U. S. Census, Abstract of the 15th Census of the United States, pp. 317-319. 1930 U. S. Census, Outlying Territories and possessions, p. 85. बोमे गेने

Midwives and nurses (not trained) Ibid. Consists of urban Honolulu. Nurses per 1,000 population: Trained nurses

Honolulu 3.6 1.9 1.0 U.S. 1.3



PERSONS EMPLOYED a/ IN MEDICAL AND OTHER HEALTH SERVICES, UNITED STATES, HAWAII, AND HONOLULU, 1940 b/

	Unite	United States		Terri	Territory of	Hawaii	City	of Honolulu	Julu c
Occupation	Total	Male	Female	Total	Male	Female	Total	Male	Ferale
					gyrifin yr hydr y cafa				
Professional Workers:	70.121	740.69	1.047	211	204	7	140	135	2
Osteopaths	6,007	4,905	1,102	00	2	9	00	2	9
Pharmacists	79,347	76,131	3,216	76	26	• 6	63	63	0 7
Physicians and surgeons	164,649	157,041	7,608	381	358	23	255	237	200
Trained nurses and student nurses d/	355,786	7,509	348,277	1,080	00	1072	736	7	732
Veterinarians	717,01	10,638	79	20	100	N	2	1	CV
Semi-professional workers:									
Chiropractors	10,629	8,758	1,871	N.A.	N.A.	N.A.	N.A.	N-A	N.A.
Healers and medical service workers,									
not elsewhere classified	19,555	10,045	9,510	122	2	43	600	53	36
Optometrists	10,237	9,762	7.22	13	13	:	0,	0	•
Service morkers:									
Practical nurses and midwives d/	61,107	3,909	87,198	300	2	298	169	Н	168
Attendants, hospital and other institutions	24,465	10,627	13,838	539	321	218	208	162	97
Population		137,669,275	275		123,330		-	179.326	
a/ Except on public emergency work.									

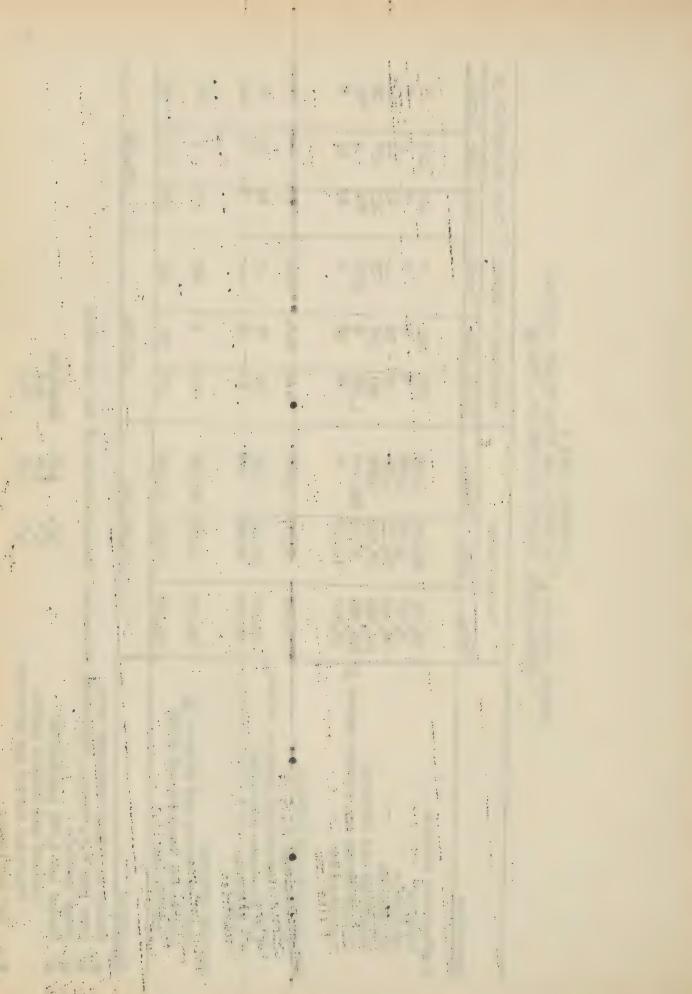
Except on public emergency work. From 1940 U.S. Census, Population, 2d series, Characteristics of the Population Urban Honolulu ने ने ने

Nurses per 1,000 population: Trained and student nurses Practical nurses and midwives

U.S. T.H. Honolulu 2.7 2.6 4.1 0.7 0.7 0.9

Practical nurses and midwives

N.A. Not available.



#### Appendix Table 6

### EMPLOYED NURSES PER 1,000 POPULATION UNITED STATES, HAWAII AND HONOLULU, 1900 TO 1940

	Territor	y of Hawa	aii	City	of Honol	lulu	Uni	ted State	S
	Total Nurses	Trained Nurses			Trained Nurses		Total Nurses	Trained Nurses	Other
1900 4	1.3	N.A.	N.A.	N.A.	N.A.	N.A.	1.6	N.A.	N.A.
1910 b/	N.A.	0.8	N.A.	N.A.	2.1	N.A.	2.3	0.9	1.4
1920 9/	1.8	1.0	0.8	3.3	1.7	1.6	2.9	1.4	1.5
1930 년/	2.9	1.9	1.0	5.3	3.6	1.7	3.7	2.4	1.3
1940 <u>e</u> /	3.3	2.6	0.7	5.0	4.1	0.9	3.4	2.7	0.7

- Calculated from 1900 U. S. Census (see Appendix Table 1). All nurses were entered under "Domestic and Personal Service" in this Census.
- Honolulu and Hawaii estimated from fragmentary 1910 U. S. Census data (see Appendix Table 2). United States calculated from 1910 Census. "Other" includes both midwives and untrained nurses.
- Calculated from 1920 U. S. Census (see Appendix Table 3). "Other" includes both midwives and untrained nurses.
- d/ Calculated from 1930 U. S. Census (see Appendix Table 4). "Other" includes both midwives and untrained nurses.
- Calculated from 1940 U. S. Census (see Appendix Table 5). "Trained nurses" includes student nurses. "Other" includes both midwives and practical (not "untrained") nurses.

N.A. Not available.

Appendix Table 7

### NUMBER OF HOSPITALS, PHYSICIANS, DENTISTS AND NURSES, TERRITORY OF HAWAII BY ISLANDS, 1946

				1	Molo-			Terr. of
Item	Oahu	Hawaii	Maui	Kauai	kai	Lanai	Niihau	Hawaii
Population <sup>a</sup> /	358,911	70,871	44,807	34,911	6,173	3,630	199	519,502
Hospitals a/	23	19	7	6	3	1	0	59
General	10	17	6	4	2	1	0	40
Allied special	5	1	0	0	1	0	0	7
Other	8	1	1	2	0	0	0	12
Total hospital ,								
"normal" bedsa/	2,692	836	580	283	131	26	0	4,548
-/	5-09							
Physicians, totala/	269	45	28	14	3	1	0	360
Institutional	16	3	3	1	1	0	0	24
Board of Health	12	1	0	0	0	0	0	13
Plantation	8	9	8	7	0	1	0	33
Group	46	0	0	0	0	0	0	46
Individual	187	32	17	6	2	0	0	244
Dentists <u>a</u> /	162	25	9	9	1	1	0	207
-								
Registered nurses,								
totalb/	787	110	74	56	19	8	0	1,054
Institutional	313	52	38	23	13	4	0	443
Private duty	76	5	2	2	1	0	0	86
Industrial	41	7	7	5	1	2	0	63
Office	79	2	0	0	1	0	0	82
School	12	2	1	1	0	0	0	16
Public healthc/	59	13	7	9	0	0	0	88
Not working	207	29	19	16	3	2	0	276
MOC MOLKITIE	201	25	13	10		2		210

- Data taken from Proposed Tentative Report of Hospital Survey and Planning,
  Territory of Hawaii (Territorial Board of Health, October, 1947), Table 2
  (including changes noted or implied on correction sheet).
- Nursing data as of 1946-1947. There were, in addition to the above, 2 U.S. navy nurses and 1 U.S. army nurse registered and working in the Territory; all 3 of these were located on Oahu. There were 197 nurses registered in the Territory but working on the mainland. Data from the Territory of Hawaii Board for the Licensing of Nurses and quoted in part by the table cited in footnote a.
- Data cited above for Molokai and Lanai are incorrect, according to the Director of the Bureau of Public Health Nursing.



DISTRIBUTION OF CIVILIAN A/RECISTERED NURSES, BY FIELD OF NURSING, UNITED STATES, TERRITORY OF HAWAII, AND ISLAND OF OAHU, 1946-1947 Appendix Table 8

	H	Island of Oahu	ahu b	Territ	Territory of Hawaii	awaii	Ü	United States	
	Perc	Percentage	Nurses	Perce	Percentage	Nurses	A.N.A.	Estimated nurses	ses availa-
	distr	distribution	per 1,000	distribution	bution	per	Member-	ble (July 1946) d	/p (9 <sup>1</sup>
	A11	Employed	popula-	A11	<b>Employed</b>	1,000	ship ,	Percentage   1	Per 1,000
	nurses	nurses nurses	tion	nurses	nurses	pop.	1946 9/	distribution r	population
Total nurses	100.0	•	2.2	100.001		2.0	100.0	100.00	1.5 €
Total employed nurses	3 73.7	100.0	1.6	73.8	100.0	1.5	8.16		• • •
Institutional	39.8	24.0	6.0	42.0	6.95	6.0	42.3 5/	52.4 E/	0.8 g
Private duty	9.7	13.1	0.2	8.2	11.1	0.2	32.4	27.1	7.0
Industrial	5.2	7.1	0.1	0.9	8.1	0.1	3.4	4.1	1.0
Public health	7.5	10.2	0.5	80	11.3	0.2	7.7	5.6	1.0
School	1.5	2.1	h	1.5	2.1	la la	11	•ानो	اته
Office	10.0	13.6	0.5	7.8	10.5	0.5	3.6	ابرا	्त
Other	•						2.5	6.0	1.0
Not working	26.3	•	9.0	26.2	:	0.5	8.2 3	•	

/ All nurses except those in government or military service.

b/ Calculated from Appendix Table 7.

industrial nursing, private duty nursing, and "other" fields (exclusive of those graduated from nursing nurses in government and military service and those listed as "unknown" (10.5 percent of all members). Computed from estimated number of registered professional nurses available in hospitals, public health, Calculated from Facts About Nursing, 1947 (Nursing Information Bureau of A.N.A.), p. 11. Excludes

1946, p. 9.

schools in 1946 and recently released armed forces nurses), Facts about Nursing. Number "available" (see footnote d/).

/ Includes nursing education.

Hospitals.

/ Less than 0.05.

/ Probably included in "Other" category.

Inactive.



### Appendix Table 9

### PRIVATE DUTY NURSING, HAWAII

### SEPTEMBER 1947 AND SEPTEMBER 1945 2/

	Septemb	er 1947	Septer	mber 1945
Employment:  Membership (Nursing Service Bureau)  Nurses actively employed  Average nurses on call daily  Average calls daily  Average days employed per nurse  Nurses employed 15 or more days  Nurses employed less than 15 days		119 106 12.7 13 19 77 29		69 64 1.8 5.8 20 N.A. N.A.
Location of placement:	No.	%	No.	%
Hospital	370	93.2	159	91.5
Home	5	1.3	6	3.4
Registry relief	10	2.5	6	3.4
Institutional (permanent)	6	1.5	2	1.1
Institutional (temporary)	2	0.5	1	0.6
Physicians' office Other calls	3	0.8	0	0
Other dails		0.2		0
Total calls	397	100.0	174	100.0
Hours of work:				
7 a.m 3 p.m.	111	28.0)		
3 p.m11 p.m.	110	27.7)	15	8.6b/
11 p.m 7 a.m.	146	36.8)		-0/
12 hours (day)	1	0.2	:57	32.8°/
12 hours (night)	6	1.5	93	53.4d/
Other hours	23	5.8	9	5.2
Total	397	100.0	174	100.0
Practical nurses:				
Active members	31	91.2	N.A.	N.A.
Inactive nurses	3	8.8	N.A.	N.A.
Total members	34	100.0	N.A.	N.A.
Calls received	29	100.0	42	100.0
Calls filled	16	55.2	22	52.4

a/ From statistical reports of the Nursing Service Bureau, Mabel Smyth Memorial Building, Honolulu.

b/ "Eight-hour day"

o/ 7 a.m. - 7 p.m. d/ 7 p.m. - 7 a.m.

and the state of the person 1.100 111 . \* \* \$

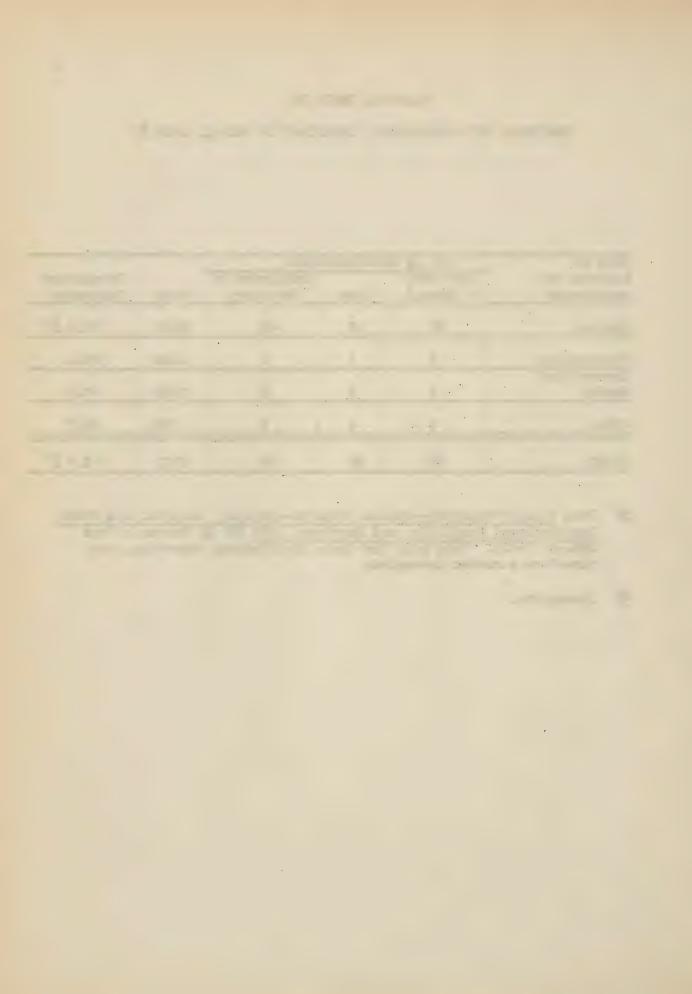
Appendix Table 10.

### HOSPITALS AND SANATORIUMS, TERRITORY OF HAWAII, 1939 2/

Type of	No. of e	stablish	ments		
hospital or sanatorium	Territory of Hawaii	Oahu	Remainder of Territory	Beds	Percentage Occupancy
General	57	16	41	3395	57.6 b/
Tuberculosis	4	1	3	1032	87.3
Nervous and Mental	2	2	0	1268	97.3
Other	5	4	1	676	80.7
Total	68	23	45	6371	72.9 <u>b</u> /

From Vital Statistics--Special Reports--Hawaii: Hospital and Other Institutional Facilities and Services, 1939 (U. S. Bureau of the Census, 1942). Data only for those institutions reporting, and therefore somewhat incomplete.

b/ Incomplete.



							M	Nurses b					Ratios	
						Gr	Graduate					Total	Total	Students
City or Town a	Hospital a/	Type a	Beds a		Total Total	Admi- nistra- tive c/	General Duty Full- Part- time time	Part-	Duty Part-Instructors Student nurses and time (full-time) nurses attendents	Student	Practical nurses and attendants	per 100 beds	nurses d per 100 beds	full-time instruc- tors
Alea	Alea Community U. S. Naval 9/	General	43	2	10	H	4	0	0	2	0	77	77	•
E W.	Ewa (Ewa Plantation Co.)	General	77	9	9	7	5 2/	0	0	0	0	7	מ	•
Honolulu Honolulu Honolulu	Honolulu Kaiihi 🍨/ Honolulu Kapiolani Honolulu Kauikeolani	Leprosy Mat.& Gyn. Children's		92	835		N.A. 32	400		011	33	83	52	:12
Honolulu Honolulu Honolulu	Honolulu Leahi Honolulu The Queen's Honolulu St. Francis	General General	25 28 28 28 28 28 28 28 28 28 28 28 28 28	3%%	38	23 23 23 23	727 33 4	v0700	400 m	138 138	2357°	18891	5 & 5 E	33364
Honolulu	Honolulu Tripler (U.S.Army)	General	621	or	0	v	0	)			0	,	43	•
Kahuku	Kahuku (Kahuku Plantation Co.)	General	30	13	9	H	W	回	0	0	7	67	20	0 0
Kansobs	Territorial 9/	Mental	1100											
Pearl	Weissen Home	Mentally Deficient	77.3											
Pearl	U. S. Naval .	General	1000											
Waialua	Waialua Agricultural Co.) General	General	38	7	4	г	m	0	0	0	00	32	11	•
Walpahu	Waipshu (Oahu Sugar Co.) The Tamura	General	22	80 m	90	но	20	00	00	00	25	16	270	o 0 o 0 o 0
444	Oahu Hospitals (19) Oahu Hospitals Surveyed $\frac{1}{2}/$ (13) Oahu Civilian General Hospitals (9)	(3) 11s (9)	6305	N.A. 1044 781	N.A. 467 321	N.A. N.A.	N.A. N.A.	N.N. N.A.	N.A. 18	N.A. 376 376	N.A. 178 84	N.A. 622	N.A. 28 33	N.A. 21 25

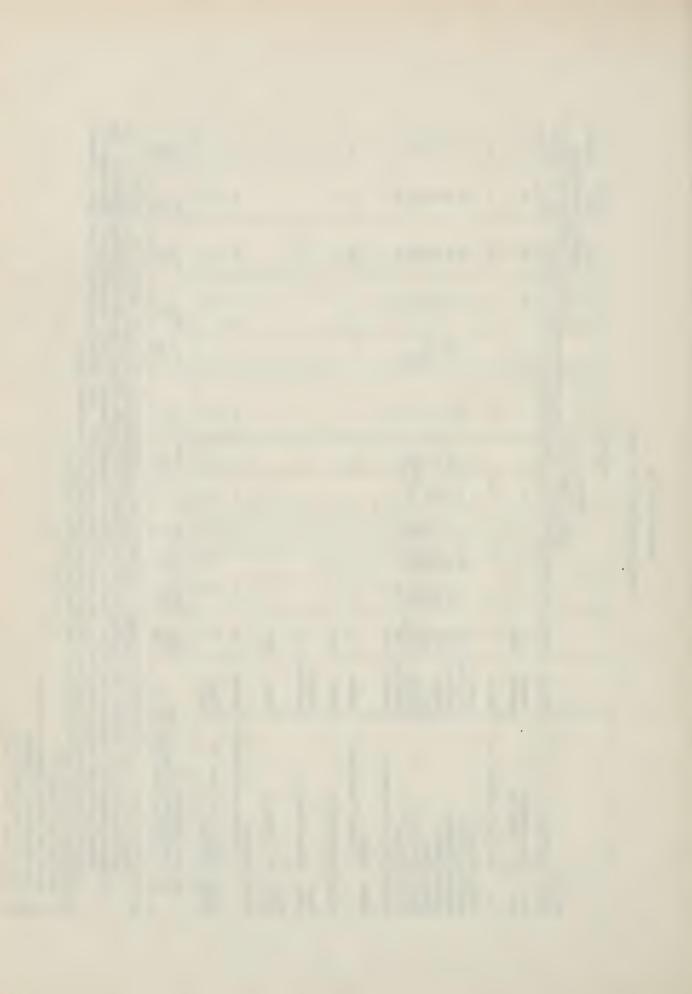
From "Hospital Service in the United States," Journal of the American Medical Association, vol. 113, no. 15, April 12, 1947. List does not include five convalencent nursing homes (Bertha Berg, Kanilao, Maluhta, Sophie Mannion and Ida Silva) and one lying-in home (Ogawa). The largest of these, Maluhia (176 beds), had 8 graduate nurses (all full-time) and 15 practical nurses at the time of the survey, November 24, 1947. Information obtained from interviews with hospital directors and directors of nursing, November 17, 1947. The significance of these figures is lessened by the rapid changes observed the nursing situation in the Islands. It is likely that a census of nurses taken on another lincluding supervisors, assistant supervisors, head nurses and assistant head nurses. Except full-time instructors. 9 A

One of them working outside the hospital. From other schools of nursing. Both full-time and part-time. Including superry d Except full-time of Not included in serious of them working from other school h Both full-time and Latest figure (from 1 all civilian hosp N.A. Not available.

Not included in survey.

Latest figure (from hospital)

All civilian hospitals except mental and leprosy.



# NURSING, TERRITORY OF HAWAII, 1947 SCHOOLS OF

	The Queen's Hospital School of Mursing 2/	St. Francis Hospital	Kuakini General Hospital School of Nursing 6/
Administration School established	The Queen's Hospital	Under third order of the Franciscan Sisters of Syracuse, N. Y. 1929 e/	Kuakini General Hospital
Student admission prerequisites	Graduate of accredited high school; age 18-30; good mental and physical health; pre-nursing test	Graduate of accredited high school, top 1/3 of class; psychological examination	Graduate of accredited high school, top 1/3 of class; psychological test; biology, chemistry and mathematics; age 18-32.
Length of course	3 years	3 years	3 years
Medicine Surgery Surgery Surgery Contagion Surgery Faining Faychatrics Frachiatry Frachiatry Frachiatry Frachiatry Frachiatry Outpatient	Yes Yes Limited Yes Yes Affiliation Limited Affiliation Yes	Yes Yes Affiliation Yes Affiliation Affiliation Affiliation No Yes	Tes Tes Vo No No Affillation Affillation No
Accrediting	# B L	T B L; Catholic Hospitals	T B L (provisional)
Teaching portal connel and Part-time h	15	11 7 4	F-M-4
Enrollment (November 1947) Graduates (1947)	134	163	£ 6
Postgraduate courses offered	0	0	0
Scholarships offered	61/	લ	13/

Source, Mrs. Mildred McFerren, Director of Nursing, The Queen's Hospital, November 25, 1947
Source, Mrs. Mildred M. Pinner, Director of Nursing, St. Francis Hospital School of Nursing, November 26, 1947
Source, Miss Mary A. Hugo, Director of Nursing Service, Kuakdni General Hospital School of Nursing, December 1, 1947; and "The Kuakdni ने ने

General Hospital School of Nursing Announcement" (1947 revision) "Bulletin of Information, 1947-1948" (The Queen's School of Nursing) "Biennial Report, 1945-1946" (St. Francis Hospital, 1947), page 1

Neurosurgery Observation ने ने भे बे बो ने

Four annually for admission to the School of Nursing, one annually to outstanding graduate of the year, one annually for degree in Not entirely consistent with data in Appendix Table 11, collected at a somewhat earlier date

nursing education (advance program to be taken at a mainland university) For further study, travel expense ald Territorial Board for Licensing



Appendix Table 13

NUMBER OF STUDENTS AND SCHOOLS OF NURSING, UNITED STATES AND HAWAII, 1935-1947

		United States			Territ	erritory of Hawaii		
lear	Population (millions) 8/	Schools b	Enroll- ment b	Gradu- ates c	Populatic (thousands	Schools d	Enroll- ment	Gradu-
1935 1939 1943 1947	127.3 130.9 136.5 141.2 <u>f</u> /	1,472 1,328 1,297 1,271 1,253	67,533 82,095 100,486 128,828 106,900	19,600 22,485 26,816 36,195 N.A.	389.6 415.7 N.A. 519.5 g/ 525.5 <u>1</u> /	~~~~~	N.A. N.A. N.A. 374 J	32 64 18 28

Statistical Abstract of the United States, 1946, p. 8, except as noted.

Facts Acout Nursing, 1946 (Nursing Information Bureau of the A.N.A.), p. 32, and Facts About Nursing, 1947, p. 19. (Based on N.L.N.E. data for state-accredited schools; as of January 1st.)

Facts About Nursing, 1946, p. 34 and Facts About Nursing, 1947, p. 20. (Based on N.L.N.E. data.) Local sources. (Facts About Nursing, 1943 reports only two accredited schools for 1935, 1939 and

1943, p. 25.) गेन

From the various school offices.

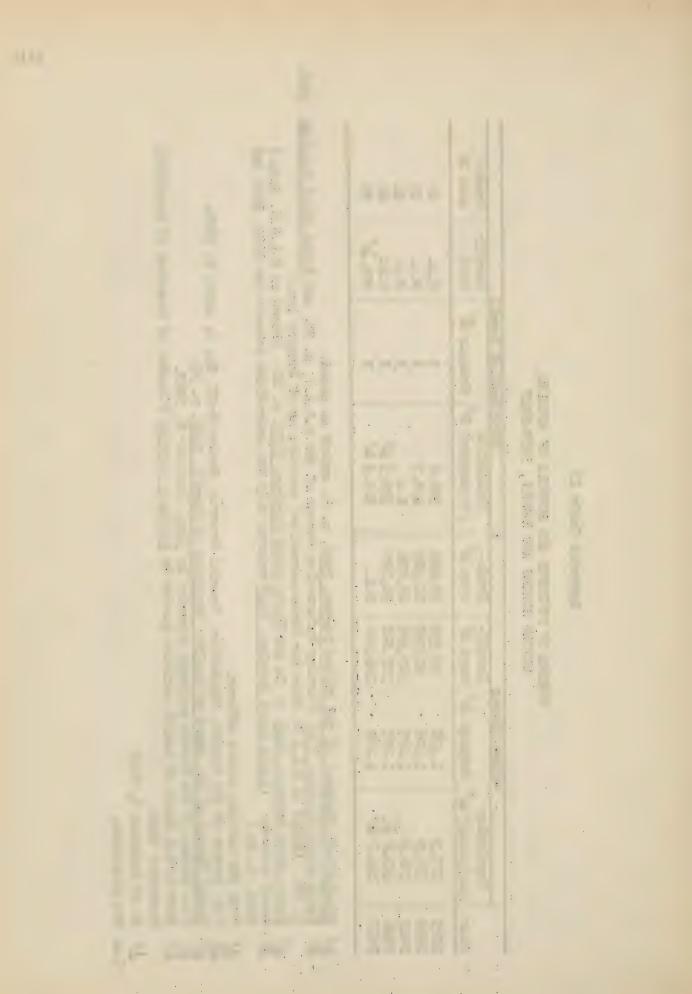
U.S. Bureau of the Census, Population, Special Reports, Series P-47, No. 3, April 3, 1947. मियानी न

Annual Report of the Board of Health, Territory of Hawaii, 1946, p. 35. U.S. Bureau of the Census estimate reported by Time, December 8, 1947. Territorial Board of Health estimate quoted by Business Service (Chamber of Commerce of Honolulu),

September 1947.

As of December 1, 1947.

Not available.



Appendix Table 14.

# STUDENT AND SCHOOL OF NURSING RATIOS UNITED STATES AND HAWAII, 1935-1947

		Popula	ation p	er			S	tuden	ts per	•	Gradi	
	Scho	001.	Stud	lent	Gra	luate	Sch	ool	Gradi	uate	Sch	ool
Year	U.S.	T.H.	U.S.	T.H.	U.S.	T.H.	U.S.	T.H.	U.S.	T.H.	U.S.	T.H.
1935	86,500	130,000	1,890	N.A.	6,490	19,500	46	N.A.	3,45	N.A.	13.3	7
1939	98,600	139,000	1,590	N.A.	5,820	23,100	62	N.A.	3.65	N.A.	16.9	6
1943	105,000	N.A.	1,360	N.A.	5,090	N.A.	77	N.A.	3.75	N.A.	20.7	15
1946	111,000	173,000	1,100	N.A.	3,900	8,700	101	N.A.	3.56	N.A.	28.5	20
1947	115,500	175,000	1,350	1,410	N.A.	15,000	85	125	N.A.	10.7	N.A.	12

a/ Calculated from Appendix Table 13.

N.A. Not available.

LAND HISTORY

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Appendix Table 15.

REGISTERED OCCUPATIONAL THERAPISTS BY PLACE OF WORK,
TERRITORY OF HAWAII, FEBRUARY 1946 AND DECEMBER 1947

		Salaria a Company of the Company of	2, 1947	No. O.T. 's
Norking status and place of work	Average Census a/	No. of O.T.'s b/	Patients per O.T.	February 6 1946 c/
Total registered occupa-	The second s			
tional therapists	• • •	22	• • •	19
Employed		14		15
The Queen's Hospital	307		102	4
Leahi Hospital	462	3 d/	154	2
Territorial Hospital				
(Kaneohe)	1,100	2	550	1
St. Francis Hospital	115	1 4	115	1
Maluhia Nursing Home	N.A. e/	1	N.A. e/	1
Bureau of Maternal and Child Health, Board				
of Health		1	400	1
Kula Sanatorium				
(Maui)	165	1	165	1
Army	· N.A.	2	N.A.	3
Tripler Hospital	383	1	383	N.A.
Schofield Barracks		1		N.A.
Navy hospitals	N.A.	• • •		1
Not working	• • •	8		4

<sup>&</sup>quot;Hospital Service in the United States," Journal of the American Medical Association, Vol. 133, No. 15, April 12, 1947.

b/ Interview with Miss Esther Pyun, O.T.R., December 2, 1947.

c/ From outline prepared by Mrs. Laura N. Dowsett, O.T.R.

d/ Plus one student O.T.

e/ 176 beds, hence no more than 176 patients per 0.T.

N.A. Not available.

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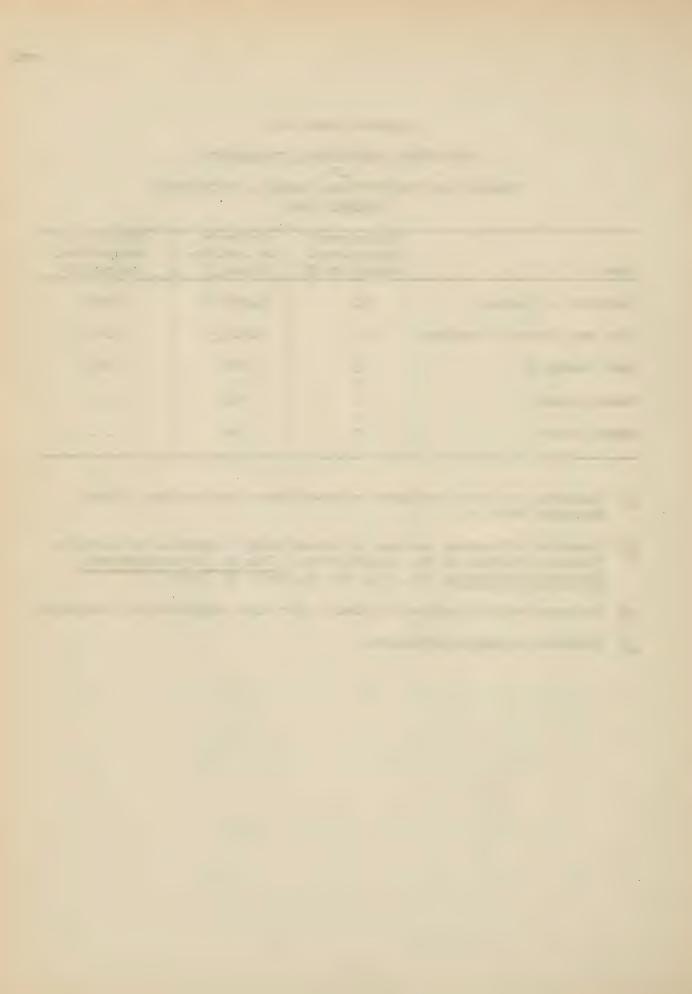
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### Appendix Table 16.

# REGISTERED OCCUPATIONAL THERAPISTS IN NON-MILITARY INSTITUTIONS, HAWAII, BY COUNTIES DECEMBER 1947

Area	Registered occupational therapists a	Patients in institutions b	Patients per occupational therapist
Territory of Hawaii	12	4,247 0/	354
City and County of Honolulu	11	2,903 <u>c/</u>	264
Maui County d/	1	708	708
Hawaii County	0	452	
Kauai County	0	184	<b>* * *</b>

- Includes only those employed in non-military institutions. From Appendix Table 15.
- b/ Summation of average censuses of non-military hospitals, as listed in "Hospital Service in the United States," Journal of the American Medical Association, Vol. 133, No. 15, April 12, 1947.
- c/ Excludes Waipahu Hospital (50 beds), for which data were not available.
- d/ Includes Kalaupapa Settlement.



# Appendix Table 17. OCCUPATIONAL THERAPISTS IN HOSPITALS,

### UNITED STATES AND HAWAII, 1946

Item	United States	Hawaii a/
Population	139,893,406 b/	519,503 c/
Number of hospitals d/	6,280	45
Average census d/	1,239,454	4,247
Occupational therapists	2,873 <u>e</u> /	9 <u>f</u> /
Population per occupational therapist g/	48,692	56,611
Hospitals per occupational therapist g/	2.2	5.0
Patients per occupational therapist g/	431	472

a/ Civilian only.

b/ Excludes armed services overseas. From U.S. Bureau of the Census, Population, Special Reports, Series P-47, No. 3, April 3, 1947.

c/ Annual Report of the Board of Health, Territory of Hawaii, 1946, p. 35.

d/ Including hospitals without occupational therapists. Data from "Hospital Service in the United States," Journal of the American Medical Association, Vol. 133, No. 15, April 12, 1947.

e/ 2,601 full-time, 272 part-time.

f/ Ten in 1947 (1 per 52,550 population). From Appendix Table 15.

g/ Calculated from above data.

A Committee of the second second

### Appendix Table 18.

# RECOMMENDED PERSONNEL IN OCCUPATIONAL THERAPY DEPARTMENTS TERRITORY OF HAWAII a/

Institution	Island	Total persons	T	Psychiatric land	ap			Home service	Aides	Volunteers	For adults of	For children " '	Student nurses	Recreational therapists	Industrial therapists
T.B. Sanatoria b/	0 9 0	12	4		1				2		3	2			
Board of Health c/		3	3d/	:											
Queen's Hospital	Oahu	8	3	2	1					1			1		
St. Francis Hospital	Oahu	6	3	!					3						
Maluhia Convalescent Nursing Home	Oahu	5	2		White the distribution of the second	-			3						
Territorial Mental Hospital	Oahu	9	6			Section of the section of the			3						
Children's Hospital and Shriners' Hospital	Oahu	3	1						1	1		Parameter of the state of the s			
Waimano Home for the Feebleminded	Oahu	4	1			The state of the s			1					2	
Blind Workshop	Oahu	4	1						1		Address of the same				2
Curative Workshop e/	Oahu	5	manufacture obtains the commence of			2	1	2							
Totals		59	24	2	2	2	1	2	14	2	3	2	1	2	2

a/ Recommended by a group of occupational therapists who have been employed in the Islands (see text).

b/ Leahi (Oahu), Kula Sanatorium (Maui), Puumaile (Hawaii) and Mahelona (Kauai).

c/ Territorial Board of Health, Bureau of Crippled Children.

d/ One for Oahu, one for Hawaii, and one for Maui and Kauai.

e/ Proposed (not yet in operation).

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Appendix Table 19.

# PHYSICAL THERAPISTS BY PLACE OF EMPLOYMENT TERRITORY OF HAWAII, JANUARY 1946 AND DECEMBER 1947

Place of employment	Average Census a/	Number <u>b</u> /	Patients per Therapist	January 14, 1946 (Number) <u>c</u> /
Territorial Board of Health	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2	• • •	1
Civilian hospitals The Queen's St. Francis Shriners'	444 307 115 22	4½ 2 1½ 1	99 154 77 22	3 N.A. N.A. N.A.
Other private institu- tions Medical Group Clinic		2 1	0 0 0 0 0 0	2 N.A. N.A.
Private practice		2		3
Total employed (civilian) Not practicing	* • •	10½ 2	• • •	9 N.A.
Total civilian	• • •	121	0 0 0	N.A.
Army and Navy	• • •	N.A.	<b>6 0</b>	N.A.
Total civilian and military	The contract of the contract o	N.A.	0 0 0	N.A.

a/ "Hospital Service in the United States," <u>Journal of the American</u>
Medical Association, Vol. 133, No. 15, April 12, 1947.

b/ Source, Miss Ruth Aust, December 5, 1947

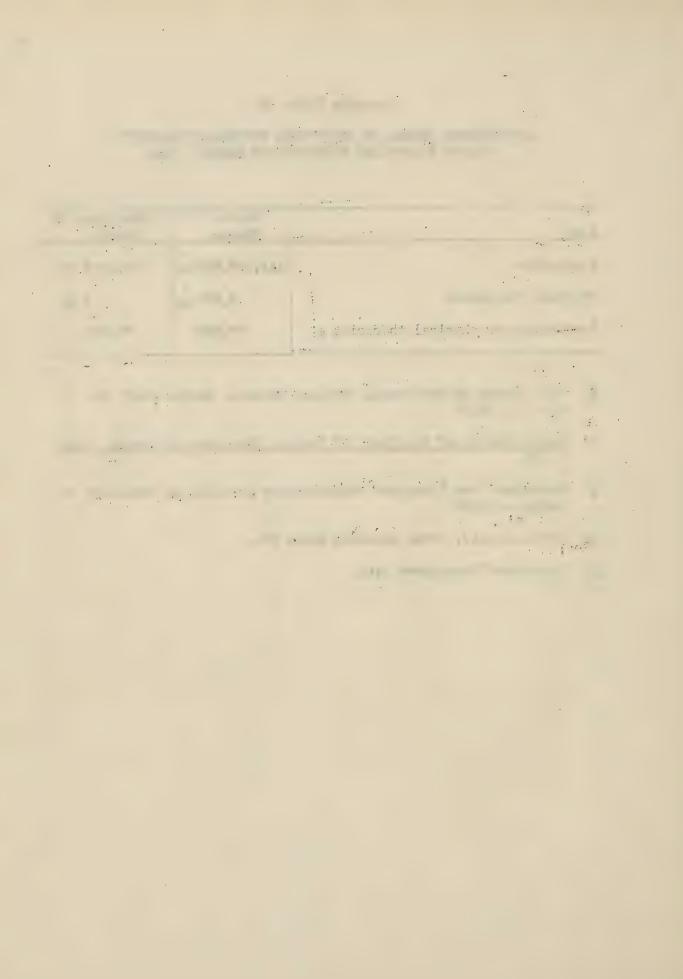
c/ Source, outline prepared by Miss Ruth Aust, January 14, 1946.
N.A. Not available.

### Appendix Table 20.

# APPROXIMATE NUMBER OF REGISTERED PHYSICAL THERAPISTS UNITED STATES AND TERRITORY OF HAWAII, 1946

Item	United States	Territory of Hawaii
Population	141,228,693 <u>a</u> /	519,503 <u>b</u> /
Physical therapists	3,800 <u>c</u> /	9 <u>d</u> /
Population per physical therapist e/	37,000	58,000

- a/ U.S. Bureau of the Census, Special Reports, Series P-47, No. 3, April 3, 1947.
- b/ Annual Report of the Board of Health, Territory of Hawaii, 1946, p. 35.
- c/ Estimated from "American Physiotherapy Association Directory of Members--1946"
- d/ Civilian only. From Appendix Table 19.
- e/ Calculated from above data.



Appendix Table 21.

# PHYSICAL THERAPISTS IN HOSPITALS UNITED STATES AND TERRITORY OF HAWAII, 1946-1947

Item	United States	Territory of Hawaii a
Population, 1947	144,708,000 <u>b</u> /	525,477 <u>c</u> /
Hospitals d/	6,280	45
Average census d/	1,239,454	4,247
Physical therapists in hospitals Full-time Part-time	3,937 <u>d</u> / 3,391 <u>d</u> / 546 <u>d</u> /	5 <u>e</u> / 4 <u>e</u> / 1 <u>e</u> /
Population per hospital physical therapist <u>f</u> /	36,800	105,100
Hospital patients per physical therapist <u>f</u> /	315	849
Physical therapists per hospital f/	0.63	0.11

a/ Civilian only.

b/ U.S. Bureau of the Census estimate reported in <u>Time</u>, December 8, 1947.

c/ Territorial Board of Health, Bureau of Vital Statistics estimate.

d/ "Hospital Service in the United States," Journal of the American Medical Association, Vol. 133, No. 15, April 12, 1947. Includes hospitals lacking physical therapists.

e/ December 5, 1947. From Appendix Table 19.

f/ Calculated from above.

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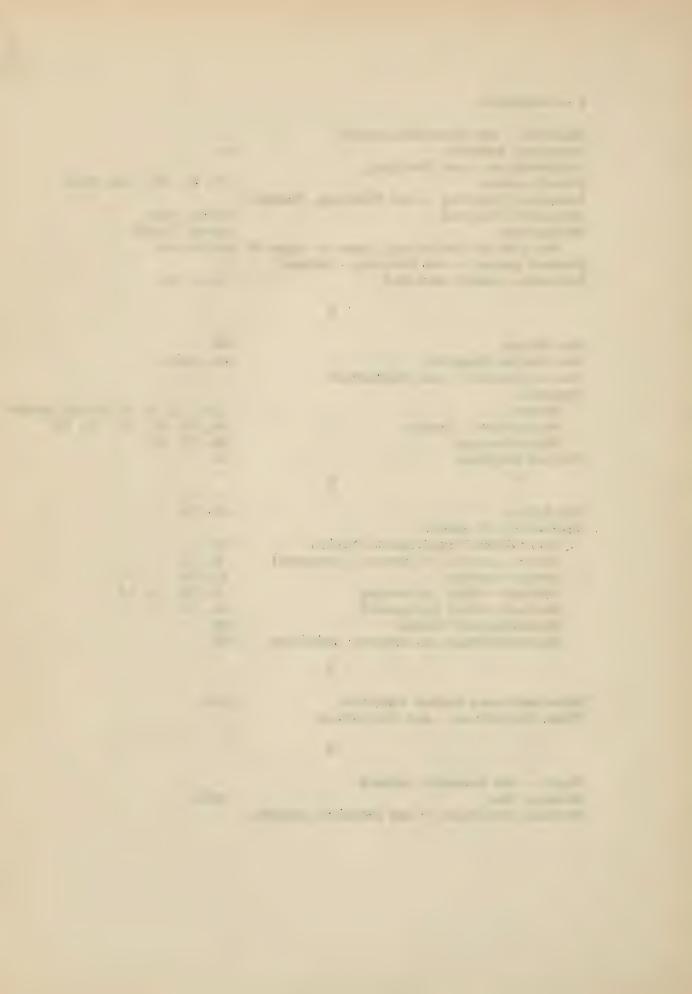
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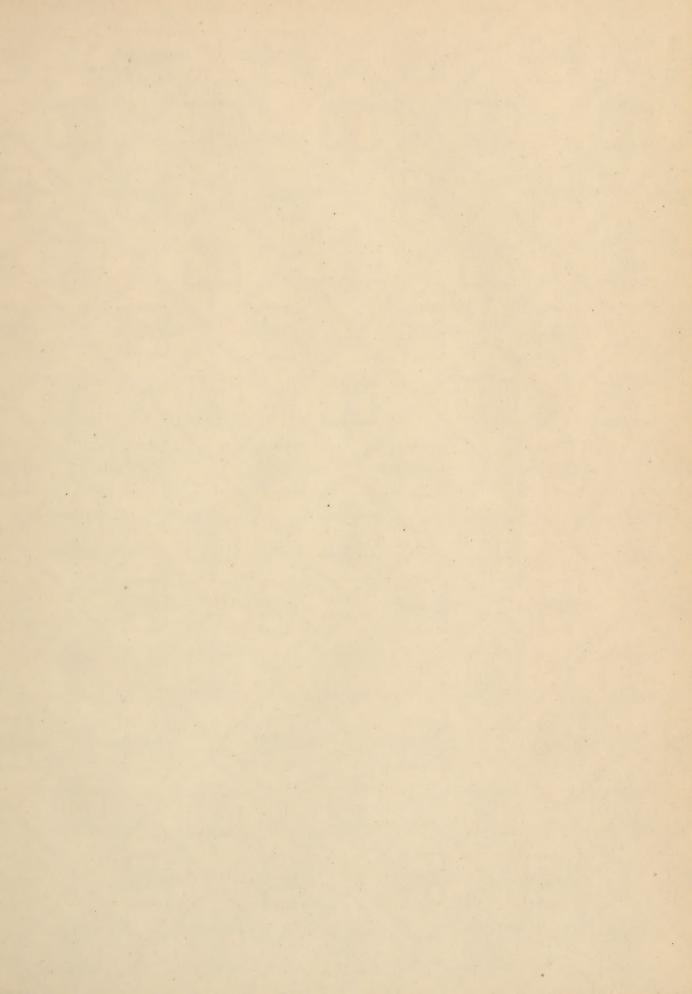


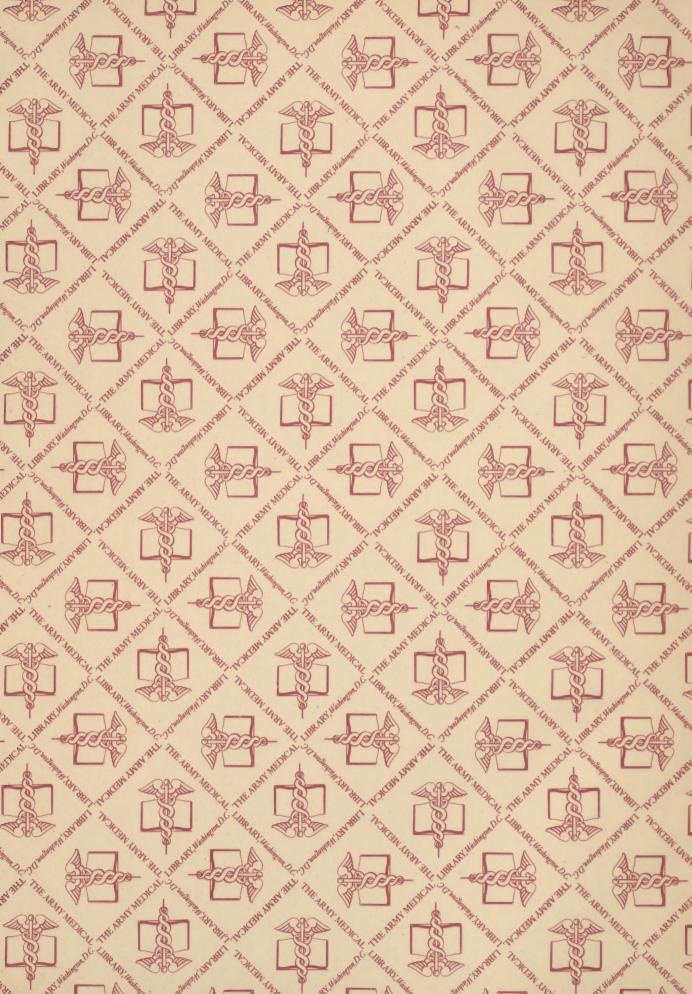
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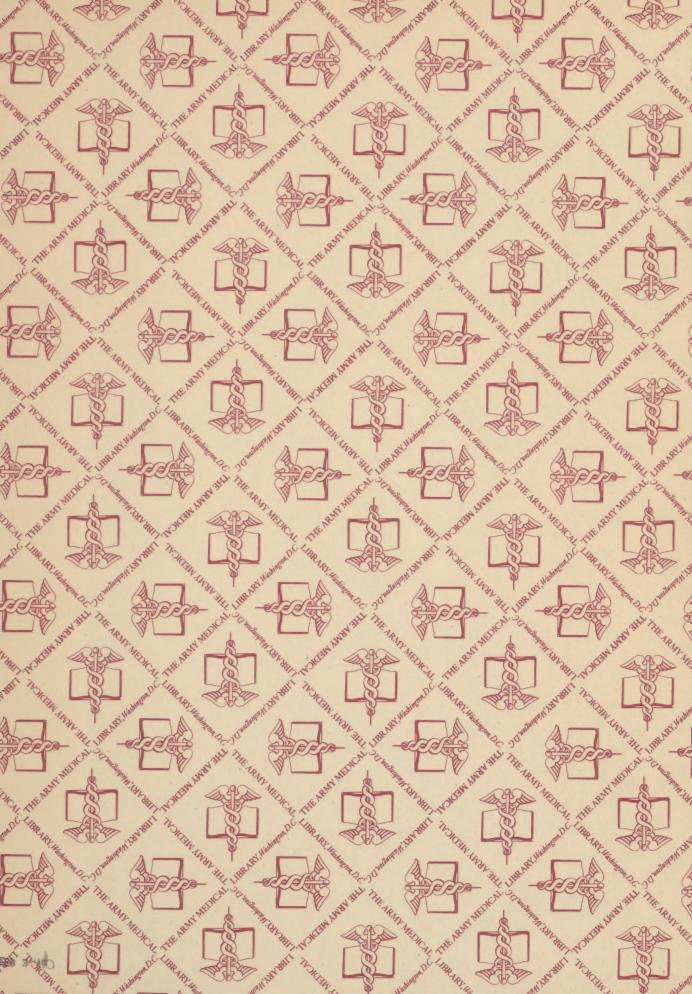
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Healthful Housing for the Territory of Hawaii February	1946
Public Health Administration and Organization for the Territorial Board of Health, Territory of Hawaii	1946
Hawaii's Sanitation Problems September	1946
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Communicable Disease Control, Territory of Hawaii September	1947
Planning for Health through Community Health Education, Social Hygiene, Mental Hygiene and Nutrition	1947
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Health Services and Statistics January	1948

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